A.8.

*Hugh Cecil Earl of Lonsdale*

176 A Treatise on the Horse, its diseases, lameness, and improvement; in which is laid down the proper method of shoeing the different kinds of feet. Also some new observations on the Art and Practice of Farriery; and on the nature and difference in the several breeds of speedy horses. By **William Osmer,** Veterinary Surgeon, and many years Shoeing-Smith in Blenheim Street, Bond Street. Fifth Edition, newly re-written, with considerable additions, by J. Hinds,

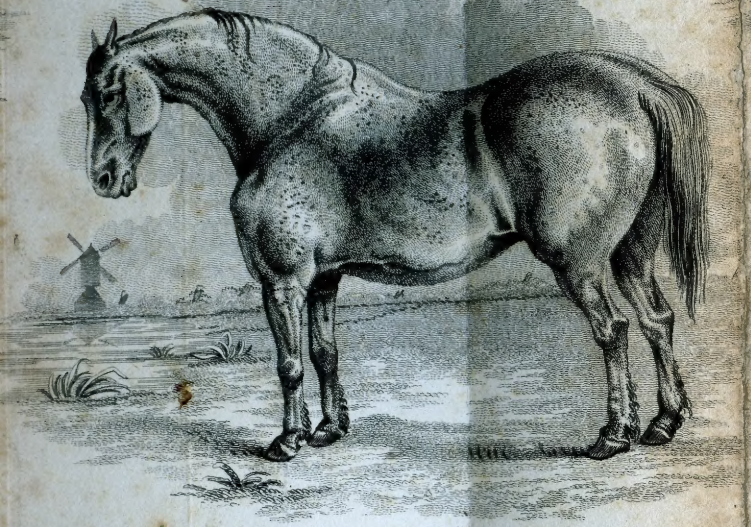
By Captain Thomas Brown, F.L.S., M.R.P.S., M.K.S., etc. Edinburgh. 1830.

8vo. 580 pp. M., 6¾ in. by 4⅛ in.

Contents:—Preface; Introduction; Sketch of the Early History of the Horse; Modern History of the Horse; Historical Sketch of the Progress of Horses in Great

THE

# SEVERAL BREEDS OF HORSES.



1. *Arabian.*
2. *Barb.*
3. *Turk.*
4. *English.*
5. *Flemish & Lincolnshire.*

*Painted by G. H. Laport. Engraved by J. Brown.*

Published Jan.ry 1.1830 by Sherwood & Co.

A

# TREATISE ON THE HORSE,

ITS

## DISEASES, LAMENESS, AND IMPROVEMENT;

In which is laid down the proper Method of

## SHOEING

THE DIFFERENT KINDS OF FEET.

Also, some new Observations on the

## ART AND PRACTICE OF FARRIERY;

AND ON THE

NATURE AND DIFFERENCE IN THE SEVERAL BREEDS OF SPEEDY HORSES.

---


By WILLIAM OSMER,

*Veterinary Surgeon, and many Years Shoeing Smith in Blenheim-street, Bond-street.*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FIFTH EDITION,

NEWLY RE-WRITTEN, WITH CONSIDERABLE ADDITIONS,

By J. HINDS, V.S.

Author of the Grooms' Oracle, Veterinary Surgery, &c.

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LONDON:

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1830.

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*** In the back-ground is the Scenery of the Countries whence the Breeds are derived, respectively.

# PREFACE.

Here is another of those books on *the Horse*, which he who *runs* may read, and all who read can understand.

THE sale of three impressions of his Treatise during the Author's lifetime, and the subsequent publication of a *fourth*, would be sufficient to obtain for it the character of being an estimable performance, even though it possessed no higher claim upon our respect, our gratitude, and admiration. Evidently derived from practice and close observation—as appears from intrinsic evidence, and sundry candid avowals, we were lately led to express some surprise, that the zeal for the welfare of the Horse, which was so loudly manifested thirty-five years ago (if sincere) had induced none of the Members of the College then established, to modernise OSMER *on Diseases and Shoeing*, for the general instruction, as is this day done. This more especially, as very many of them have produced books, assuming originality, upon the same topics, in which they have made free use of his doctrines and adopted

his terms, copying even his phraseology in many instances—but nearly all *without due acknowledgement*. Of about a dozen of these College-bred authors which have come under my notice, with some who were *otherwise educated*, scarcely two have escaped detection. From this censure, I see no reason for excluding the names of White, Coleman, Lawrence, Goodwin, Blaine,* to say nothing of the minors. One alone, and he anonymously, recently paid the just tribute of respect to our author, by reprinting a portion of the *third edition*, in successive numbers of his useful periodical publication (the FARRIER and Naturalist) and thus brought Osmer's work under notice, in a manner that deserves our thanks. Another periodical writer, of some power and much intelligence, though no *farrier*, often pays homage to the talents of *Osmer* in his communications to the Sporting Magazines. The first mentioned gave *the author's words* throughout; the latter adopts his ideas, his opinions, and generalities; nor

* This gentleman's very able work I have glanced at but casually; not because the author was without a College certificate [diploma!] but perhaps its great bulk. He is accused by *John* Lawrence of having copied from *Osmer's Treatise*, what he afterwards gave the world as "a discovery of his own." So stated in *White's Compendium*, page 346, edit. 10th. *Mr. Blaine* is not alone: his poor accuser is wofully in the same predicament; and the Professor at Pancras eminently so.

could either do better, let us allow, for the instruction of their readers, respectively. What is equally deferential to our author's talents, he was abused (in common with several others) by Taplin; a sufficient eulogy, even though that verbose person had not drawn largely from this Treatise; nor was it less so, when the ruffian afterwards lowered the tone of his asperities, that being the course usually followed by such characters.

The teachableness of *Osmer's* manner, when he chooses to dilate, as he does on any topic that he desires to enforce; his originality; his tact for the thing; his practically-acquired knowledge—altogether combined to render his Treatise a source of valuable instruction to the ardent professional inquirer, who could wade through the rich unarranged materials of his three hundred pages, untired. Why the volume ceased to interest the generality of purchasers, needs no other explanation than a slight comparison of this edition—its divisions, and subdivisions, its head-lines and sub-heads, with the former editions. What else could have consigned to the back ground his excellent chapter ON SHOEING? the leading points of which have been subsequently adopted into practice at the Pancras College; there made the ground-work of an introductory volume in *quarto*, by Professor Coleman, and of a better one in octavo, by Mr. Goodwin, as

it had been, at a period much nearer the author's own era, by James Clark, of Edinburgh.*

Besides the valuable and never-to-be-forgotten information contained in *Osmer's* chapters ON LAMENESS, whether produced by bad shoeing, by accidents, or brought about by constitutional defects, what else is there of the new or the erudite to be found (after thirty-five years of its "infancy") at the poor degraded College, or its *products*, living and dead?† In the catalogue of plagiarisms—to which the reader may turn at once, by help of the Index—we find comprised the whole of Coleman's, the Clarks', and White's most vaunted claims upon the admiration of posterity: *viz.* Compression of the Sole, Navicular Disease, Injury of the Coffin-bone, Dislocation of the Coffin-joint, Ossi-

* James Clark says, somewhat uncandidly, in his second volume (on Shoeing) "This method of shoeing *I have followed* before Mr. Osmer's Treatise on that subject was published, and for these several years past have endeavoured to introduce it into practice," page 58. Those "endeavours" appear to have extended over a space of twenty years—if used at all.

† I have nothing whatever to do with their squabbles, *inter se;* but, *as the cat jumps*, we can plainly perceive that an excellent public institution, in theory, which costs us a large sum of money annually, is practically converted to private purposes; whilst the pupils are confessedly taught but half their future trade, and the public are cajoled with assumed "discoveries" and "cures" of incurable disorders; the former derived from Osmer, mostly,—the latter consist of rank charlatanerie.

fication of its Processes, Contracted Heels, Frog-pressure, Short Shoes, Construction of Stables and Management, Structure of the Foot and of Horn, the Botts question, Expansion Shoe, &c. &c. As before said, the terms of art applied by Osmer have been adopted, necessarily, in most cases; the only instance to the contrary being so done with very bad taste: his "coffin-bone," or as he once termed it, "the coronary bone," having been re-baptised *small pastern*, by Coleman and his *scholars*,—save the mark! That I followed the general corruption, is attributable to my desire to avoid cavilling at trifles, and my early intercourse with *White*, —as explained elsewhere. To the last-mentioned amiable man and excellent chymist I owe the error (among others) once promulged by me, of Mr. *Coleman* being "the discoverer of the functions of the coronary ring;" whereas, *the professor* appears never to have discovered any thing whatever, except in the volume of *William Osmer*. Even the *term* "Iron defence," as most intelligibly applied to the horse-shoe, and upon which I took occasion to observe (in *Veterinary Surgeon*, page 471, of the first edition), "whoever termed the horse-shoe *an iron defence* was a happy fellow, and deserves well at our hands." See the whole passage at page 488 of the second edition of *Veterinary Surgery*. This term, also, we owe to the same Osmer.

THE DISTEMPER is another of those topics

How it happened that I was thus tardy in acceding to Osmer's *salt practice* may be instructively told. In my memoranda, under date of July, 1802, I find noted an experiment made with 10 oz. of Epsom salts, given as purging physic to a horse of Mr. Robson, in Little Britain, by Mr. *James White*, our mutual friend, *Mr. Badcock*, being present.* We were then in search of the most eligible purging physic, under a variety of circumstances, and had tried, ineffectually, jalap, rhubarb, &c. The *salts* were likewise a failure; this dose producing

* This is the same whom *Mr. Percivall* speaks of elsewhere as "*a Mr. Badcock*," though they had dealings together from 1806 to 1821, both inclusive, and frequently. As to his not finding my name in his list of Veterinary Surgeons, that is a negation which might afflict any one with clearer perception than *Mr. Percivall* can boast of, without *his mental assistant*, for his own name does not appear in the largest list of Veterinary Surgeon, that I and my assistant, *Mr. Badcock*, can find in London: neither does the name of his assistant, *Mr. Youatt*, appear any where whatever, unless this be on his own gateway; nor would he deem it any honour I believe, but the contrary, to see his name enrolled with those of Coleman, Sewell, &c. Besides all this, at a meeting of the profession in 1829, Mr. Percivall was told, from the chair, that "neither he or they had any right to arrogate to themselves the title of *Veterinary Surgeons*, exclusive of other gentlemen, who chose to study the Art, with the requisite means of doing so effectually."—Vide the address of *Mr. Fenwick*, in the chair, at Freemasons' Tavern, July 8th: who subsequently told the meeting, that he was himself "the son of a Farrier of the old school;" yet no one ranks higher in practice than Mr. Fenwick.

only a thin watery stool, or two, and that by no means copious: a repetition of the experiment was from that moment abandoned. In addition, I do not blush to own, that this is not the only instance in which I have found it necessary to retrace my steps upon reading *Osmer's Treatise:* the cause of *cutting* is the most prominent of these self-corrections, effected by this volume on my practice of veterinary medicine. In making these avowals, I do not take credit for any great exertion of candour or justice; for it has been my practice from the beginning of my studies, (a period long antecedent to the advent of St. Bel,) to get rid of errors, without making a parade of the circumstance; but I do expect something better than silent commendation for having hesitated to recommend asserted remedies, as to the actual utility whereof I was myself yet unsatisfied.

Why *the profession* have not adopted the neutral salts in their practice, or why they have not recommended the free employment of the marine salt, as *a preventive,* is unaccountable by any other scale than sordid lucre amounts to, and the abridgement their fees would necessarily undergo by the change which would thus be effected in the general health of their patients. Than do this, they might almost as badly conspire together to recommend the present volume to the perusal of their customers, to the evi-

dent curtailment of those fees in one description of practitioners, and in another the utter derangement of their quack nostrum trade.

Another reason why justice has not been done our Author, by reprinting his work, will be found in the apparent want of practicability in the old editions, for the use of the *general reader;* who, with the book in his hand, could not turn to any given topic upon which he might require information, for want of that mechanical arrangement, so common and so necessary in the modern books of instruction. In like manner, his *prescriptions* were of the antiquated forms, and to some young drug venders, acquainted only with the modern nomenclature, and " the last Pharmacopeia," I ascertained, were found *perfectly unintelligible.* The brevity, too, with which particular diseases were treated, the classification of many under few heads, and the mode of effecting the cure by generalities, however much to be prized by scientific persons, were, nevertheless, so many obstacles to its full reception by the public. Of some affections of the horse he took no notice whatever, or dismissed summarily, in the recapitulation of the causes, symptoms, and cure of several together, and piqued himself on " the time he had thus saved himself and the reader." (See the whole of page 158, &c.)

But, in all these lapses, much is to be excused

on the score of the different circumstances under which *Osmer* wrote, and the *public mind* he then instructed, as compared with the present state of education and present practices; besides that powerful one of his being the compounder and vender of his own prescriptions, according to the practice that then prevailed generally, as it does now partially; whereby we perceive that a hint, or general idea, of the state of a patient would be quite sufficient information for the owner who might live within range of the prescriber's residence, where the medicine would be found ready made up. Add to all this, the author's *manner* of teaching was abrupt and short, wanting those suavities and expletives which soften the rigour of style, and invite the reader to a cordial interview: they were the faults of the age in which he lived, and would no doubt have received the correction which modern lights give, had *Osmer* survived to the present moment.

I have then, by a small effort of the imagination, supposed our author still among us, and asking my help towards modernizing his volume, without hurting the sense, but giving to such passages as required it those expletives, and that elongation, or carrying out the evident first intention of primitive ideas, as he himself would have applied were the work to do over again. For these liberties, I

offer no apology: if they be not judicious, I ask not applause; if not requisite, I deserve blame; if impertinent, pity. Beyond these I have adventured some additions to the text, that are marked with the *bracket*, thus [; in two instances they are long, as the notes are many; and all are submitted to the same public ordeal as every other original composition.

My own partiality for this author, which was suddenly lighted up in June last, may be distinctly enough traced to its source, by any one who will take the trouble to compare certain opinions maintained in common by *Osmer* and myself, as the Humours, Mechanics, &c. and other minor coincidences that are not a little remarkable, which had already received place in my Veterinary Surgery. The ardency of this attachment, as well as its sincerity, may be estimated by the reader's turning to the last page of that publication, by which it will be seen, that I have been induced to lay aside for a time a much more extensive work upon which I was then engaged, [*viz.* a DICTIONARY,] that I might give to this interesting volume its present dress.

Up to this moment I have had in view the first three *parts* only of *Osmer's Treatise;* of the *fourth*, on improving the breed of speedy horses, I make no commentary, nor affect any plaudits: I

have abridged some redundancies, and added what of novelty the subject appeared to require. More might have been done for the author, had I been so inclined; less would not suffice to satisfy me I had fulfilled my first intention of rendering his work acceptable to the public; and, further, I promise myself that much good will be effected by diffusing generally, in *print*, the points in breeding (see Index) that appear to me worthy of strict attention, but which hitherto *may* probably have floated about orally, or was received and acted upon without investigation—certainly without any fixed principles.

If it be remarked that, in this book, certain subjects (diseases) have been treated of which were already handled in my former volume of "Veterinary Surgery" pretty much at large, let it be known, in reply, that most of these are professedly passed over by *Osmer* with bare mention of the name, which I have there entered upon in full detail, according to modern practice. Less than twenty pages will comprise the whole of this apparent repetition; and, though we could not fail to arrive at the same conclusion as to the treatment, in nine cases out of ten, yet this course has been taken by quite a different route, and present different views of the progress of each attack. In truth, I have given quite a new turn to the mode of instruction

here pursued, from that which I followed in my larger work; and the horse-owner who refers to both books on any emergency, will place himself in the same position as the human patient who consults two doctors: would the reader "call in" a third? let him send for *James White's* book, *but not one of the last editions*, as these have been distorted by some unhallowed hand.

J. HINDS.

*Bridport-place, Jan.* 16. 1830.

---

N.B. The *Dictionary* alluded to at page xvi. was announced nearly in the following terms:

*In March,* 1830, *will be published, by the same Author, and of the same size,*

A NEW AND COMPLETE

DICTIONARY OF THE VETERINARY ART;

In which *the Terms* employed by various Writers, and the respective orders of practitioners are explained, under their popular and scientific acceptations: as are, also, the usages, remedies, prescriptions, varied regimen, applications (topical and potential), bandagings, operations, *Materia Medica*, &c. in the modern practice of Farriery and Horse Keeping: compiled with a view to *practical results* only, and their employment in the cure or mitigation of diseases in horses, dogs, horned cattle, sheep, and swine.

The whole offering the means of ready reference to every topic connected with brute-animal economy in health and disease, in accidents, inflictions, work, and management; as to comforts, privation, feeding, reproduction, and culture; but divested of controversy, doubts and jarring of opinions, and offering only the best and readiest modes of meeting derangements of the animal system, and amending defects, of curing disorders, and avoiding error.

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JOHN HINDS, V.S.

AUTHOR OF VETERINARY SURGERY, &c.

Published by Sherwood & Co.; Hurst & Co.; and Whittaker & Co.

## OPINIONS OF THE JUDGES ON THIS WORK.

* * Where commendation is general and uncontradicted, no more need be said, in ordinary cases; but vanity, if not interest and the consciousness of having laboured to a good purpose, superinduce the subsequent quotations from contemporary writers.

The *Sporting Magazine* for May, 1829, expresses its surprise that hitherto "no *Stable Guide*, addressed to the capacity of servants, should have issued from the press. All the old books of farriery, from their stiffness, failed *to instruct* as they ought; but in this volume the matters treated of, independent of *the manner* in which it is executed, is much to be commended. We no where discern a wish on the part of the Authors to display *fine learning*; but, on the contrary, they render topics of the most difficult nature perfectly intelligible to the meanest capacities. As to the points upon which they converse, we discover none omitted that could be desirable to the practical horse-keeper or owner,—the most common-place that may be known to every trainer of eminence, in part or in the whole, being brought forth in a pleasing and truly instructive manner, for the benefit of the less-expert and junior persons. But we must quit *The Oracle* by recommending it to the notice of those for whom it was specially compiled." Pages 34—6.

"Mr. J. Hinds' *Grooms' Oracle* not only comprehends every kind of information relating to the diseases of a horse, but gives ample and admirable directions how that noble animal should be treated, so as to *obviate disease* in every variety of service in which it may be employed." Vide *Taunton Courier*, April 8, 1829.

"The matter taught, we are fain of believe, is of the utmost importance to the well-being of horses of every description, and of the higher bred cattle in particular; the object of the speakers being to talk of training horses into fit condition for getting through their work in style—Whether that be of the Turf, the Chase, or the Road. As usual in works of this nature, amidst much that is quite new infor-

mation, there is a good deal of intelligence, that is known to al Training Grooms, as 1st. The mode of keeping down *flesh* whils keeping up the *stamina*; 2d. Of putting *pace* into the horse; 3d. O improving his stretch and form of going, as well as sustaining hi lasting qualities." Vide *Age*, March 22.

The *Weekly Dispatch*, sporting newspaper, goes on with its obser vations on the state of the *Veterinary Art*,—thus, "the immens advantages of *post mortem* examinations is evident to all but th meanest capacity, and was strenuously insisted upon in the Authors former volume, as it is again in this *Grooms' Oracle*, in more familia terms. If the practice of Veterinary Medicine and Surgery is thu in a fair way of being disclosed to vulgar eyes, and laid open to th comprehension of ordinary minds, no less so is the *Art of Trainin* horses into condition for every species of work here placed in a mor just and rational light than we have hitherto been in the habit o hearing and seeing the subject treated. By the way, we are ver much mistaken if the grooms' employers may not derive as muc pleasure and profit from the perusal of these Conversations as th class of persons for whose use the volume appears to have bee ostensibly designed." Vide March 15, 1829.

---

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# Farriery

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Printed for the Author; and for WHITTAKER and Co. Ave-Maria lane, 1829.

N.B. This is the only BOOK of FARRIERY ever published wherei the *principle* upon which diseases are incurred is taught, hand i hand, with the *practice* of curing them; or, that ever yet attempte to show *distinctly*, and within the comprehension of all description of persons, the *Causes*, the *Symptoms*, and the *Remedies* proper i each separate disorder of THE HORSE.

# A

# TREATISE ON THE HORSE;

ITS

## DISEASES, LAMENESS, AND IMPROVEMENT.

---

## PART I.

*Treats of Lameness; its various Causes and Distinguishing Characteristics, principally as regards Shoeing; with the Remedies, and Applications proper to every ill.*

INTRODUCTION.—I am rather afraid the people who *profess the art of shoeing* will be much offended with this and the succeeding chapters; inasmuch, as I herein propose to instruct them in their business, in which each assumes to be the most expert of his fellow workmen—but, *sub judice lis est.*

From the time that *horse-shoeing* was first practised as a separate trade, the same vanity and self-conceit seem to have universally characterized the smithy; for, when a gentleman desires to have his horse shod, according to his own mind, it is a gene-

ral saying among those men, that they do not want to be taught their trade; which is as much as to say, in other words, there is nothing to be learned in their art, or ever will be, but what they are already acquainted with. A similar complaint was raised against the same headstrong conduct, by the earliest writers on this subject, who quote time immemorial for the charge; and what is deserving particular notice is this—there is not one of those artists, how much soever they may differ from each other, but gives the same answer, under the impression that every one knows infinitely more than any of his neighbours, at least, if not as much as all the world besides. What is more, the same unamiable propensity threatens to annoy the teachers' endeavours for several ages to come.

It has been a well-received maxim among wise men of all ages, who have investigated such subjects, that nature has created nothing in vain; and the saying has been repeated by twenty authors or more, insomuch that reasonable people, of whatever persuasion in other respects, agree that *nature* should be the guide in all our operations upon the horse, and that of shoeing among the rest. But, if you ask one of those artists, or artizans, his reasons for acting in this or that particular manner, or should inquire of him the use of any part of the animal, as, whether to it has been assigned some given functions or office to perform? he can give you no answer to the question; nor does he even pretend to have any knowledge thereof, but is

guided by custom alone. Hence, those who reason over such subjects, necessarily conclude, that many errors have arisen in the practice of this art; and that the artists have no just cause of offence, when any information is offered to their notice, coming from any quarter whatever.

Be that as it may, my intention is, in the first four chapters, to explain the original design, and proper manner of shoeing horses; which will bring me to consider the uses and abuses introduced into the art, and its evil effects, as well as lamenesses produced from *other causes;* all which I propose to perform as clearly and concisely as I can, so that every man of common capacity may be able to judge for himself in these matters, that every one allows is of no small moment to the well-being and prosperity of the horse, in whatever service he may be employed—whether dragging the produce of the land for our comfort, or galloping after a chase for our recreation, or running a race for our profit.

---

## CHAPTER I.

### *Principles of Shoeing.*

NATURAL DEFENCE.—When time was young, when the earth was in a state of nature, and turnpike-roads as yet were not known, the horse needed not the aid of the *shoeing smith*, whom I

have termed *an artist;* for the divine artist ha taken care to give his feet such a *natural defen* as it pleased him to bestow; and who among us weak enough to suppose, or so bold as to asser that this wisdom is not sufficient to the purpose, i such a state! But, to prevent all supposition an cavil on this matter, let us only look around us and appeal to our senses: do we not every day se horses, mares, and colts, running about on all sort of ground unshod, yet uninjured in their feet, fo they do not always take to the hardest ground whe at large?

In many parts of the world to this very day, eve on the most stoney ground, horses are accustome to carry their riders unshod; and in this kingdom, have known several horses that were rode for considerable time unshod, on the turnpike-road about London, without any injury being thereb done to their feet; though in these latter times thi practice is got into disuse, as the roads are becom harder, and the horse's services are more urgently re quired. Moreover, I durst believe, many of ou horses might travel their whole life-time, unshod, o any road, if the crust of their feet were constantl rasped round and short at the toe; seeing that hereby, all feet exposed to contact with hard sub stances are thus induced to become more obdu rate (or inflexible), provided, at the same time, tha *the sole be never pared.* Whilst some feet by thei extraordinary fine form, depth, and strength, ar enabled to resist such roads with impunity, and t

support great weights without breaking. We shall come presently to show how these qualities may be impaired, or entirely lost, by bad management.

[At this place it is worth our while to stop and inquire whence the custom of shoeing horses arose, and how it should prevail in one part of the world and not in another. In *Asia*, the original country of the horse kind, they do not shoe their horses at all, because the hoof acquires a tough and firm texture from the dryness of the soil, and really stand in no need of any artificial defence. Further to aid nature in the re-production of horn of the most desirable texture and hardness, every horseman carries a rasp to shorten the toe and take off *the ragged* of the quarters of the foot, which would otherwise grow too luxuriant, and the crust would most certainly split. On the other hand, horses reared in the *Netherlands*, for example, or in our *Lincolnshire*, on wet or moist lands and a humid atmosphere, will naturally have a wider and weaker foot, the consequence of its being replete with cartilage, and therefore capable of contraction by heat, and of expansion by being exposed to damp or wet.

IRON DEFENCE.—Seeing the great difference that existed in the texture, or hardness of the horn in horses' feet, *man*, in his wisdom—as the surface of the earth changed, found himself obliged to add *another defence*, besides the *natural one*, to preserve the crust of such feet as were weak, and therefore not so well able to support

them against injuries from hard substances, a stones, roads, &c. This was the "iron defence we now term *the shoe.* From the good derive out of this practice, so tried and proved on certai kinds of feet,—though, it must be allowed, but partial good, after all, it is no wonder that th custom of putting shoes on all kinds of feet becam general in some countries.

Our ancestors, the *original shoers,* proposed, i their first efforts, nothing more, it is presumed than to preserve the crust or wall of the hoof fro breaking away, and thought themselves happy tha they had skill enough to accomplish so much. Th moderns, also, are wisely content with this lowe quantity of the artificial defence, in regard to horse racing, whereby pace, that constant desideratum was also bettered. But, in process of time, th fertility of invention, and the vanity of mankind brought forth a variety of methods, almost *all whic are productive of lameness;* and I am thoroughl convinced, from close observation and long expe rience, that nineteen lame horses out of ever twenty in this kingdom are *lame of the artist* which, again, is owing to the form of the shoe, t his ignorance of the designs of nature, and conse quent improper treatment of the foot, every pa whereof was designed to answer some useful pur pose, though it thus appears he does not happen t know it.

But waving all that these modern artists know, o do not know, I suppose it will be universally as

sented to, that whatever method of shoeing approaches nearest to the law or design of nature, such is likely to be the most perfect method; and as the feet of different horses differ from each other, so, if we would arrive at any perfection in this art, the human reason must be employed in discovering wherein this difference consists, and in ascertaining its degree, that each may be treated according to its nature. And yet, with regard to each and all, some general rules may still be followed.

THE FOOT, ITS COMPONENT PARTS.—For the sake of those who may be unacquainted with horses' feet, and for their instruction, I shall now describe such parts of *the foot* as offer themselves to our view, and come under our cognizance, as the immediate and principal objects of our care, when the animal is intended to be shod. These are, the *outer sole*, the *crust*, which like a *wall* surrounds it,* the *frog*, and *bars* on each side; and the spongy skin-like substance, which covers the hinder and cellular part of the foot, and constitutes the *heel* of the horse. Of each of these, I will speak in detail shortly.

With respect to the treatment of these several parts, Mr. *Lafosse* (to whom the world is indebted for many ingenious observations) has already laid

* This is the earliest mention we can find of the crust or *hoof* proper, being denominated *the wall* of the foot, a term which has now become general among us. It was about the period when *Osmer* wrote, also, called "the coffin," whence the principal bone within the hoof acquired the name of *coffin-bone*.—EDIT.

down some excellent rules. And, although, I dare to say, that every man who has tried his "method of shoeing," is convinced of its impropriety—I mean as a general method, yet some useful hints may be gathered from his doctrine, fitting for our present purpose, whilst the good and evil of his manner of shoe-making shall be spoken of hereafter. He says, "*the sole* should never be pared;" and the reason he assigns is both obvious and just; *namely*, that the sole when not pared acquires a greater degree of firmness and *obduracy*, whereby it is better enabled to withstand injuries from extraneous bodies, such as glass, nails, flints, stones, &c.

*The sensible sole* is a very important part of the foot, and the many injuries it sustains, as well as its inability to sustain them with impunity, demands that we should bestow some attention upon it, in this place, though concealed from our sight by the outer *sole*, that forms the concavity of the foot. This latter is evidently a contrivance of the all-wise Creator, to defend by its obduracy the inner or *sensible sole*, which lies immediately within the other, or insensible sole, between that and *the bone* of the foot, which has acquired latterly the term *coffin-bone*. This *inner sole*,* being no other than the termination of one of the flexor tendons of the leg, which is continued to the bottom of the foot,

* It is depicted in *White's Compendium*, plate 8, detached from the tendon; and described, as to its being the termination of the tendon, in *Hinds's Veterinary Surgery*, page 444, and in plate 2 of that work.—EDIT.

and overspreading the bone thereof, takes its oval shape by pressure, as it were.

This tendinous expansion, or sensible sole, when the outer sole is pared away, and the animal put to strong exercise, is, for want of its natural defence, exposed to excessive pain, and is consequently liable to violent inflammation. From this cause alone, the poor creature often limps away from the forge; and many a horse has been rendered lame for ever, under a variety of names, according as the effects thereof may make its appearance on this or that part of the sole, if it do not make its way to the coronet also.* If it be asked by any shoeing-smith, what becomes of the sole when not pared away by him? I answer—it dries up, separates, and scales away, acquiring hereby the character of being *a flakey sole*; which kind of sole requires to be deprived of its flakes only, when these are redundant: health prevails when these flakes appear to have formed.

THE FROG.—The same Mr. *Lafosse* has said, "the frog should never be pared." His reason is, that *the frog*, being united to that tendon of the leg just mentioned, as one that is continued down to the bottom of the foot, is itself an elastic body, is placed there as a proper point of support, and

* We are indebted for a long catalogue of such supposed separate diseases, to the ingenuity of Jeremiah Bridges, as follows, the last mentioned being inclusive of all the rest, viz. Surbating, Incastellation, Founder, Fig, Running-Frush, Canker, Corn, Narrow heels, Paring too low, *Injuries by Shoeing*.—EDIT.

serves as a basis to relieve this tendon at each step or motion. But any person of common sense may perceive, if the frog be pared away, it cannot be admitted to touch the ground, as nature designed it should; for want of which support the tendon is forcibly elongated and strained;* hence, frequent lameness of this tendon is occasioned, and hence, also, windgalls are frequently produced.

As to those *tendons*, I am aware, that many persons maintain they are elastic bodies, but it is, nevertheless, *an error*. For all tendons and muscles are confined to their proper sphere of action; and hence it follows, that, if they were elastic, the force of any muscle of the limbs (the upper and lower parts whereof are tendinous) would be eluded, and fail in its object, before such tendinous part could act according to the will. †

*Paring the frog* has to sustain other objections also. In the *first place*, if admitted to touch the ground, it helps to stop the horse from sliding, as the figure of it plainly shows. *Secondly*, the frog with its bars, occupying the hinder part of the foot, is designed by nature to distend the heels,

* In "Veterinary Surgery," (page 472,) we had already drawn attention to the distinction that exists between *strain* and *sprain*. In plate 2, fig. 1, at *(a)*, this tendon, emerging from its sheath, is seen descending to the sole.—EDIT.

† That tendon has the property of *elongation*, Osmer allows at a subsequent page (the 30th in chapter iv. and the 42d in chapter v.) as, indeed, he could not avoid doing in the face of all authority, the word *tendo* signifying *to stretch*, *to bend*, &c. We conclude, therefore, that he intends to say they are not elastic laterally.—EDIT.

or, as we now say, to keep the heels *open;* but when cut away, and their strength impaired, this suffers the heels, the quarters, and the coronary ring to contract upon the internal structure of the foot. Hereby another description of lameness is produced, of which I shall speak in the 5th and 6th chapters, as diseases of the *navicula* and of the coffin-joint; neither of which can be ascertained with any degree of precision, certainly not distinguished from each other, to any useful purpose, until after death.

THE BARS are situate between the *heel*, the *frog*, and the *quarter* on each side, and should not be scooped out according to the general mistaken practice, for the reasons just mentioned; because, in conjunction with the frog, their use is to *keep open* the hinder part of the foot, as well as to defend it. Neither is the spongy, skinlike substance to be cut away until it becomes raggy, because it is the expansion of the skin round the heel, its use being to unite more firmly the foot and its contents; as well as to keep the cellular parts of the heel from growing rigid; it also surrounds and covers the coronary ring, and may be observed to peel and dry away as it descends thence upon the hoof.

THE CRUST. Those are the *general rules* to be observed with respect to every kind of foot. But, because Mr. *Lafosse* has said "the *sole* and *frog* should never be pared," many smiths of our country, mistaking the extent of his meaning, have fallen into another extreme, and do not pare the

foot at all. Yet is it quite necessary, that *the crust* of all horses' feet which are shod should be pared more or less, according to its different degrees of strength; although it must be allowed that no *general instruction* can be laid down, as to how far this paring is to be carried, because the *nature of feet* differ greatly from each other, in size, in thickness, and in hardness or brittleness—by which circumstances alone the workman is to be guided. And to prove the necessity of thus paring the crust, it is to be observed, that the ground surface of the crust of every foot—that whereon *the shoe rests*, invariably becomes rotten in a few weeks; so that, if a new shoe be set upon an unsound foundation, it cannot stand firm or long. In such cases, the crust will also shell off, or break away, leaving large chasms, which the smith in vain endeavours to amend in working horses by turning down an adequate portion of the iron.

Now, as it follows, that where the foot is *deep* and the sole *hollow, the crust* is generally thick and strong, such a *crust* cannot be pared down too low —so as not to fall into *the quick;* because, if suffered to remain, the strength of the crust alone will occasion such a compression on the interior parts of the foot as to produce lameness—as will be shewn further down.

In all *broad fleshy feet*, the crust is thin, and should therefore suffer the least possible loss: on such feet *the rasp alone* is generally found sufficient to make the bottom plain, and produce a

sound foundation without employing the desperate butteris, or even having recourse to the less offensive drawing knife. Thus it is each kind of foot should be treated—according to its different degree of strength or weakness.

THE SHOE.—The superficies of the foot round the outside being now made plain and smooth, the shoe is to be made quite flat, of an equal thickness, *all round the outside*, and open and most narrow backwards at the extremities of the heels, *for the generality* of horses; whilst those whose frogs are diseased, either from natural or incidental causes, require the shoe to be *wider* backwards. Then, to prevent this *flat shoe* from pressing *on the sole* of the horse, the outer part thereof is to be made thickest, and the inside gradually thinner. With such a shoe, it will be seen, *the frog* is admitted to touch the ground, the necessity of which has been already shewn. Add to all this, the horse stands more firmly; his feet may be said to take firmer hold of the ground, having the same points of support as in the natural state. *Osmer's shoe* is depicted in plate 1, fig. 1.

Here, the reader will perceive, is a plain easy method of *forming the shoe*, agreeable to common sense and reason; being strictly conformable to the anatomical structure of the parts, and therefore in accordance with the design of nature. A method so plain, that one would think nobody could have fallen into any other, or commit any mistake in an art, where nought more is required, than to keep in mind three things, viz.

1. To make smooth the surface of the foot;

2. To ascertain what loss of crust each kind of foot will sustain with advantage to itself; and

3. To nail thereon a *piece of iron,* adapted to the *natural tread* of the horse; the design, good, or use of the iron, being only to *defend the crust* from breaking—the *sole* wanting no defence, if *never pared.*

Let us next examine the prevalent manner of shoeing, by comparing it with what has been already said, and we shall soon perceive its sad effects.

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## CHAP. II.

### *Of adapting the Shoe to the Structure of the Foot.*

NAVICULAR DISEASES, so called, are brought on, in nine cases out of ten, by bad shoeing; for the modern artist employs very little difference in the treatment of every kind of foot that may come to hand; but with a strong arm and sharp weapon, carries all before him, and takes away more from a weak-footed horse at one paring, than nature can furnish again in some months, whereby permanent lameness is brought on, sooner or later. Whilst, if a strong-footed horse, with narrow and contracted heels, is brought before the smith, such an one meets with treatment still more severe. Thus, under pretence of giving the horse ease, *the bar* is

scooped, *the frog* is trimmed, and *the sole* is drawn as thin as possible, even to the quick; and all this is done without mercy, as it is without judgement, in the workman, who assigns as a reason, that the "horse is hot-footed, or foundered, and cutting away will give him ease;" whereas, if the animal were really lame, this treatment would but confirm the evil, and render it more inveterate. How all this is brought about, is only to be ascertained by examining the *structure of the foot* internally.

In the interior part of the foot (which few or none of those workmen have ever examined) there is a broad cartilage annexed to each upper end or corner of the *foot-bone*, (called by the moderns "coffin-bone"); there is also, a small bone, called the *navicula*, or nut-bone, placed cross-wise in the foot behind the conjunction of the coffin-bone, and the *coronary-bone*,* the ends whereof are articulated to the inner sides of the *coffin-bone*, which ends are also cartilaginous; and from the situation and functions these have to perform in every motion of the foot, it is necessary they should be of a cartilaginous and pliant, or yielding nature.

Now, it follows, that when this same foundered foot (as it is called) is robbed of those parts that

* Described by us moderns as the *small pastern;* a bone that is big at both ends, small in the middle, the small part being embraced by the *coronary-ring*, (where the hair of the foot touches the horn), one-half the bone lying concealed within the hoof, the other ascending out of it. The lower end articulates with the coffin-bone, the upper end with the *large pastern*, forming the *fetlock*-joint.—EDIT.

were designed to *keep it open*, the heels and the coronary-ring become contracted more than they were before, by which means those cartilages of the *foot-bones* I have just described, are more compressed or contracted together. All the membranes and tendinous expansions of the foot, also, are compressed and inflamed, and the cartilaginous ends of the *nut-bone*, together with the ligaments, are squeezed together as in a vice. Therefore, is it well worth observation, that whenever the heels of a horse are deep or narrow, stricture ensues around the coronary-ring, and such feet fall more or less lame, after some use, and that from no other cause than the compression above described. [The accuracy of the foregoing representation may readily be put to the test, and the industrious inquirer retire more satisfied with his labours, by his examining the internal structure of the foot upon dissection with his own hands, as directed in "Hinds's Veterinary Surgery," page 443. But as few persons set about such a job, with full leisure and sufficient inclination for the performance, in plate 2 I subjoined a view of the bones just described, with their cartilages marked; and the *back sinews*, also, or flexor tendons, by which the foot is lifted up, or suffered to fall on the ground, the which were spoken of above, at pages 8 and 10, *notes*.

THE TREAD.—But the modern artists, not content with ruining and destroying the work of Providence, by the means just described, seem resolved that all their operations shall be of a piece, and in

every thing act by contraries. To prove that this charge is not hastily made, I will demonstrate, that the kind of shoe in common use is at variance with sense and reason, as well as contrary to the *natural tread* of the foot.

In the *first place,* it is taken for granted, that no horse can *go,* if the shoe bears upon the sole; but, to avoid this evil, we hear them say, the modern shoe must be formed and stand *concave!* Therefore do they make their shoe thinnest on the outside, and thickest on the inside.

Mark, now, the inconveniences arising from the unequal surface of such a shoe! The horse, having, by those means, fewer points of support, is more liable to blunder, to strain the tendons, injure the cartilages and ligaments, break the bones of the foot, and to dislocate some of the joints of the fore part.*

The weight of the horse bears chiefly on the inner side of this shoe, which is the highest part; so that the nails next to the heel, when the horse comes to work, must break, or give way, or tear *the crust.*

* Although the horse be *liable* to all those consequences of bad shoeing, it does not follow that breaking of bones, or dislocation of some *part* should happen. The college people (a few of them) have taken up this sentence too literally, and talk about "dislocation of the coffin-joint," as positively as if they had seen this accident, which, however, none of them pretends to have done. Whether concussion or compression injure the contents of the hoof, the whole is then affected with "numbness," as Bridges (in "No Foot no Horse") termed it. The subject is handled fully in my "Veterinary Surgery," pages 451-4.—EDIT.

Hereby, the shoe gets somewhat loose, the fine sand of our roads insinuates itself between the foot and the shoe-heel, and the horse is then said to be *gravelled;* or he gets a corn, perhaps, with which he goes lame for life, no effectual remedy being known for this evil.

*In the next place,* by employing this kind of shoe, though the frog be not pared away, it will be raised to such a distance from the ground, that it cannot be admitted to touch it; by which intervention of the shoe between the frog and the ground, the *flexor tendon* within the foot loses its support, as much as if the frog were actually pared away, and disorder of the tendon ensues. *Furthermore,* the *heel* of the horse is hereby corroded and eaten away, and the *crust* is also more liable to be broken. Notwithstanding all these facts are so easily ascertained, those men are obstinate and weak enough to affirm the direct contrary, and give it as a reason for making the outside of the shoe thinnest, not perceiving the consequences of such unequal pressure on the crust. Or, we might say, more properly, the total absence of pressure on that part of *the crust* which most requires it, and which by its superior hardness is most capable of sustaining pressure, *namely,* the outer or external face of the hoof.

Having thus shewn what a variety of lameness is superinduced by the wrong manner of shoeing, I shall leave all that has been said to the sober consideration of my readers, under the expectation

that they will try the experiment of a change from what cannot be worse to what may be better—and go on to state my opinions and experience of the improved and, as I think, only proper method of shoeing.

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## CHAP. III.

### *Particular Directions for Shoeing rightly.*

SHAPE OF THE SHOE.—Let the shoe on every description of horse stand wider at the points of the heels than the foot itself; otherwise, as the foot grows in length, or luxuriantly, the heel of the shoe, in a short time, gets imbedded in the heel of the horse; and this pressure often breaks the crust, or produces temporary lameness, probably a *corn.*

Let every kind of foot, on being shod, be kept as short at the toe as possible; so as not to affect *the quick;* for, by leaving a long toe, the foot becomes thin and weak, and the heels low, whereby the flexor tendons of the leg are strained; whilst the shortness of the toe helps to widen the heels, or, as some say, to *keep them open* and expansive. So, in all thin weak-footed horses, the rasp should be laid on the toe in the like manner, with a view to render it as thick as possible; for, hereby the whole foot becomes gradually thicker, higher, and

stronger, and is thus rendered more capable of resisting injuries, and the wear and tear of travelling. But, in all those feet where the texture is *very strong*, the rasp may be laid obliquely on the fore part of the foot towards the toe, and the toe itself thinned, whereby compression on the parts is diminished by lowering the strength of the crust. This rasping, however, is to be used with great discretion, lest the crust, being thin, and therefore unable to support the weight of the horse and his load, a *sand crack* ensue; which frequently follows a too free or unskilful application of this tool, or from the naturally rigid texture of the hoof next to the coronet.

[At first shoeing a weak, or thin-hoofed horse, on the improved plan, it is advisable for the workman, when he cuts the toe *short*, to leave it nearly square, merely rounding off the angles with the rasp. Of course, no nails are to be driven into the hoof farther forward than these angles; even in the stoutest hoofs, nor so far in general. By these means, he not only prevents stumbling down hill, but the nourishment that would descend to the toe, now goes to strengthen the heels, and to *keep them open*. This latter piece of advice applies more to the hinder feet than to the fore ones; because the *horn* is always thicker at the toe before than behind of every individual horse, whilst the quarters are ever thicker of horn behind than before, by reason of the wearing at the toe being greater behind than before; a comparative fact, that teaches us to keep

short the toe before, if we would have good sound quarters, cause the horn to fill up *sand-crack*, &c.

THE HEEL of the shoe, moreover, on all *strong and narrow* heeled horses, should be made strait at the extreme points; the form of the shoe, in some measure, helping to distend the heel of the horse. For the same reason, the shoe on no horse should be continued farther than the point of the heel.

OF PARING.—It has been said already that neither *frog* or *sole* should ever be pared away; nevertheless, it must be understood, that it is impossible to pare *the crust* without, at the same time, taking away a portion of the adjacent sole; it is also further requisite, in order to obtain a smooth and even surface, *so far as the web of the shoe reaches*, but no farther.

*The frog*, too, will form an exception to the general rule, as it often becomes ragged, and loose flakey pieces will occasionally separate from the body thereof; and this will take place sometimes in one foot and not in the other, arising from the greater heat or *fever in the foot* so affected, either by reason of some disorder of the lungs falling down thus partially, or by its being the leading leg when the horse is put on his best pace. Whenever this happens, the loose pieces should be cut away with a knife, to prevent gravel lodging therein. But, if this discretionary power of *cutting away* be left with the workman, he will be sure to take away more of it at one time than

will grow again in many weeks. The lower point of the frog, towards the toe, should also be taken down whenever it grows too high or luxuriant.

CALKENS.—The indefatigable Mr. *Lafosse* has also given his readers a caution against the use of *cramps*, or what we in England term *calkens*, and vulgarly *corking;* that is to say, turning up the shoe at the point of the heels to prevent slipping on the stones in frosty weather. He says that "the frog being hereby removed to a great distance from the ground, the tendon will be inevitably ruptured." But this is true only in part; as, in all minor strains of the tendons which do not amount to absolute disease, these give or relax a little, so as to ease off the concussion that would rupture them. In summer time, I am free to allow, this effect would frequently happen when the ground is dry and hard, and the horse put on his best pace; but then, no one thinks of *calkens* at such a season, whilst, in the winter season, when the ground is usually wet and soft, this cannot happen in a flat shoe, because the calken of the shoe-heels then buries itself in the ground, so that the frog is still admitted to touch the ground and to rest thereon. I therefore conclude it is necessary and proper that all sportsmen who hunt over hilly or slippery countries should have their horse-shoe heels turned up in winter time, especially the hinder ones, for the security of their persons: they may do so, if they choose, without danger of rupturing the tendons, and some would

come home less lame with calkens than without them.

[A method of applying moveable calkens is described in Hinds's Veterinary Surgery, thus:—"The necessity of frequently removing the shoe, and thus impairing the wall, or crust, may be superseded by making screw-holes in the ground surface of the heels and providing a suitable supply of screws with steel heads, that may be applied and screwed on anew every day, if need be." In fig. 2, plate 1, I have represented the screw, with the *tool* which is used for applying the same to the heel of the shoe. When the shoe is made, in winter time, a female screw is to be worked into each heel of the shoe, and a quantity of *male-screw calkens* got ready, that are adapted to these holes, respectively: to prevent bungling, or delay, each lot should be numbered, lest the screw enter too deep for the thickness of the shoe-heel.

The foregoing method of treating the foot, with such a kind of shoe as has been described, I have used many years; and, to the best of my remembrance, have not had a horse lame since its adoption, except when pricked by the workman. Hence, it was a matter of great astonishment to me, and so continues still, how any other form of shoe could ever get into general use at all; and more so, that it should maintain its erroneous principle and practice four-fifths of a centnry after the present exposition of its evil tendency.

Yet must it be allowed that no precise method

of shoeing can be laid down as strictly applicable to all horses alike; which arises from the different *nature*, *form*, and *texture* of horses' feet: but the prejudices of mankind on all such occasions may be worth remarking upon, as having been the let or hindrance to improvement. Thus, one man invents a new piece of machinery, which he finds to be very useful and proper in many respects, and let us add, just too. Hereupon, his pride and self-love would fain extend its application to all purposes whatever. In this light, he warmly recommends it to his neighbour, who having tried it, and finding it fall short of the pretensions so set up, he falls into the other extreme, and declares it to be good for nothing. Hence, that which may possess many claims to adoption, when treated with moderation, becomes neglected of those who should be its patrons, and is totally thrown aside. Hence, also, the perfection of some arts is less extensive than it might be; and this one of defending the feet of the most useful and noble animal on earth among the rest, supremely.

Now, this flat shoe that I have been speaking of, is not to be made with a smooth surface, after the old French fashion, but channelled round, or what is called *fullered*, after the English manner; by which form the horse is better prevented from sliding about, and the heads of the nails are less liable to be broke off—both which inconveniences attend the shoe with the ground surface quite smooth. But so ignorant are these our artists (who say they do

not require teaching) that not one of them can make these flat shoes, though a pattern lies before them, for which reason they generally dislike and condemn them.

CUTTING.—It has always been deemed a difficult matter to prevent horses from *cutting*, when once they have fallen into that evil way of going; it is, nevertheless, very easily accomplished, if people will but attend to the causes which produce it. Whoever will be at the trouble of examining the feet of such horses as *cut*, will, at all times, and in all descriptions of horses, find *the cause* to be the same; *namely*, to turning out their toes, and consequently intruding the inner heel of the shoe towards the corresponding leg and foot. Hence arises the necessity of boots and bolsters, and bandages, round the fetlocks of half the horses trained at Newmarket, to prevent knocking their joints together; which all our thoroughbreds are likewise liable to incur in training, at strong work, by their *manner of turning*, especially when the turn is short or hastily made, when it is effected by their passing the forelegs over each other.

Now, by way of remedy, let us examine the cause; which will be found in the form of the colt's standing to graze. As all the younkers, particularly well bred cattle, are high-mounted, that is to say long in the legs, they take the grass with an outstretched foot, whereby it rests mainly on the inner quarter, and this part is worn lowest. This fact is usually disregarded by the breeding farmer; whence

an evil habit of standing is acquired, the toe grows outward, and the foot becomes crooked from the fetlock-joint downwards—whereupon we say, *it points badly.*

It may, perhaps, be repeated that this habit of turning out the toe is entailed on certain horses by nature; that is to say, foaled *high before;* or, the leg behind being *low set on,* or coming too much underneath the body (as happens to filly foals, mostly), which seems to throw up the fore-hand inordinately. But, whether it be natural or acquired, the immediate cause of *cutting* is still the same in all horses so afflicted, and depends on nought else, than the inside heel being lower than the outside. And, to prove that this doctrine is true, as well as to remedy the evil betimes, let the farrier, as soon as he perceives the colt's toe turning out, pare down *the outside* of the foot as much as he can; let this be repeated as often as the foot will allow of it, but leave *the inner* quarter alone: thus will the animal grow strait on his legs and feet, with the toe pointing forward, and never cut or knock himself about when he comes into use. The crust should also be suffered to grow *fullest* on the *inside* of the foot, and the outer part thereof be rasped away as far as can be spared.

By following this method, we may also *prevent grown horses* from cutting, if the foot be strong enough to bear a sufficient loss; if not, the substance of the *iron defence* may be made *thicker on the inside* of the foot, from the heel to the toe, than

it is on the outside; and, where it is practicable, and shall appear necessary, both those methods may be employed, and each will assist the other in attaining the desired purpose. I have rode a horse treated in this manner several years, and have found it of but little inconvenience to his *going*, or to his feet; much depending, in such cases, on the goodness of the hoof itself. In like manner, such of the dealers as are masters of their business, use this kind of shoe to raise the inside of the horse's foot, and *make him point*, or stand strait on his feet; the which object being achieved, cures *cutting* before or behind, or high or low. The purchaser of such a horse, who thinks he has bought a strait-legged nag, is much surprised, and with reason, at the alteration he perceives in him, the first time it is shod in shoes that are equally thick on both quarters.

Our modern shoeing-smiths, however, in this as in many other affairs they undertake, act by contraries, and rasp away as much as they can from the *inner* part of the feet, whereby the *outer* part of the wall gets stronger and stronger every day, and *cutting* is superinduced in horses originally strait-footed, for they are thus compelled to turn out their toes, and then it is the inner heel of the shoe that inflicts *the cut*.

## CHAP. IV.

### *Of Lameness, produced by Shoeing, principally; and Treatment of the Hoof.*

COMPRESSION OF THE HOOF.—It has been already said, that all horses whose feet are contracted round the hinder part, or the crust is deep and strong, are generally more or less lame when they have been shod and used any length of time, and that simply from compression on the very susceptible contents of the hoof. And I now mean to add thereto the proofs, that no method of shoeing whatsoever can prevent lameness of some such feet; and yet no man alive ever saw a horse—with this or any other kind of foot—lamed, but by the infliction of some injury, or by leaving too great length of toe, whilst the young one remained unbroke, and running about in a state of nature.

Now, if ever the shoe before spoken of as *Lafosse's* be useful, it is chiefly in this case; for in such a shoe the heel and frog of the horse rests, in great measure, upon the ground, receives some share of weight, and is, by means of such weight and pressure, kept open and expanded;—by which expansion of the heels, the compression on the interior parts of narrow-footed horses is removed, and he that was before lame is, by degrees, as the foot spreads, rendered sound,—provided there be no specific disease in the interior parts of the foot.

Again, where horses have feet inclined to the other extreme, whose heels are weak and low, if the shoe be set somewhat short at the points of the heel, such will, by degrees, improve, and grow higher. Yet a farrier can never be prevailed on to believe, that weak low heels will become stronger by leaving them exposed to hard substances. But it must be expected, that horses with weak or diseased feet, which have been accustomed to go in long broad shoes, will at first go very lamely in shoes which are either short or narrow-web. And many that are lame of the shoer with various disorders in their feet, would be cured by short or narrow shoes, if the frog, sole, and bars were not pared out. But when those parts which are designed by the Divine artist as a *natural defence* to the interior part, are cut away by the *superior wisdom* of our earthly artists, why then, undoubtedly, short shoes will not do; for the horse requires some *artificial defence*, to supply the loss of the natural one. Now, it is the great weight, unequal pressure, ill form and action of the iron made use of to protect the foot when it is thus horribly abridged by our artists, that is productive of almost all the evils incident to horses' feet.

In like manner, for training, *Lafosse's* short shoe will be proper for horses whose feet are of too *strong* a texture, as well as for those which are too *weak*, or affected with any disorder. But for horses that have *good feet*, I would prefer having the iron continued to the point of the horse's heel,

but no farther; and for all horses that are used on *training* ground, the iron should be very narrow, little wider than a plate, without the *wash*, of a thickness sufficient to keep it from bending, according to the size and weight of the horse. But my knowledge of the good and bad effects of the short shoe for horses used upon the road, even for such as are benefited by it on the turf, does not extend so far as to settle this matter; about which there are many disputes and contradictory opinions amongst the most unprejudiced men, that bid fair to last to the end of the nineteenth century at least. All which accounts are, I dare say, very well founded, but amount only to this, that some horses can go upon the road in these, or without any shoes at all, and some cannot.

These are the *advantages* attending the short shoe; but, if Mr. *Lafosse* were to ride a fox-hunting down the sides of our steep and slippery hills, I dare say he would not use them twice; for horses so shod, have, in this kind of work, great difficulty to stand at all; besides, from such slipping and sliding about, they are certainly more liable to be lamed; and from the inequality or sloping of the ground, that hunters go over in most countries, the tendinous fibres of the leg are, occasionally, strained and elongated, more or less.—And this I can from experience aver, having myself lamed a horse in the tendons of both legs, the very first day of hunting him in these short shoes.

There are many men, who can distinguish these

*ass-footed* horses, and pronounce with certainty the lameness thereof, even without seeing them move at all, as readily as other men shall distinguish gold from silver, or lead from iron. But, because all men have not been attentive enough to make the same discoveries, some, through ignorance, or prejudice to their own opinions, have asserted and maintained other kinds of lameness, which do not exist at all; and talk of horses being *chest-foundered*, and *shook in the shoulders*, when the disorder is in the feet alone.

SHOULDER-STRAIN.—From those premises I am led to insist, that whosoever talks of horses being chest-foundered, or shook in the shoulders, is an ignorant pretender to the knowledge of this animal, and is himself shaken in the head. To prove the truth of this doctrine, and that shoeing is but a partial good, take this same *narrow-heeled*, or *strong-footed* horse (which, because it is fair to the eye, is, perhaps, called a very good one), pare down the crust as much as you can, cut the toe off round and short, and turn him out to grass bare-footed, he will become sound in the course of time, if the interior parts of the foot are not otherwise diseased. The true cause of which is, that the foot not being confined in a shoe, the weight of the horse expands the same; the crust, and the stricture of the coronary-ring, is relaxed by the dews and moisture of the ground, whilst the evil compression on the internal parts is removed.

In this respect it is, that the unskilful are imposed

on by the farrier, who (having done something to your horse, for what he calls a lameness in the shoulder, and ordered him to be turned to grass) vainly believes such soundness to be the effect of his remedy; and you, for want of better knowledge of the animal, are persuaded to give him credit for the assertion. To prove this by the reverse, you have but to take the same horses which may have been so cured, whose feet by their open figure and relaxed state are pronounced *sound*, confine them again in a shoe, keep them at house, and spite of all that art can do some of them will become lame again, perhaps the first time of riding; especially if the weather be hot and dry, merely from the compression above described. Then for the remedy. Who at this day has not seen the horrid barbarity of *rowelling*, *blistering*, nay, even *boring* the shoulders with a rod-hot iron, (under pretence of curing some lameness therein,) committed on this most noble animal, by the obstinacy, pride, or folly of mankind!

Yet would I not be understood to say, that there is no such thing as a *lameness in the shoulder*; because the muscles and ligaments thereof are liable to be strained, as well as other muscular and ligamentous parts. But, that no man may hereafter be mistaken, I will lay down one unerring rule, whereby he may distinguish the real disorder from any other lameness, without consulting the farrier at all; which is, that the horse, which has strained its shoulder, drags his toe upon the ground; for it

is impossible that the horse can extend his foot to go on, without extending also the muscles of the shoulder; which act of extension he, to avoid pain, or from inability, does not choose to have performed.

It appears also, from the nature of the articulation of the *humeral-bone* with the *scapula*, or blade-bone, that this joint is liable to dislocation, either forward or backward; and there are many farriers in this kingdom, who pretend to have cured this dislocation, by the means of the *patten-shoe* put on the foot of the lame leg; the truth whereof they would attest, on oath, I dare say, or seal with their blood, probably. But a *patten-shoe*, in this case, must of necessity do harm instead of good; because it will force the head of the *humeral-bone* further from its articulation with the *scapula*, that is to say, the *angle* these form will become more acute, in consequence.

DISLOCATION OF THE SHOULDER.—Since the *first publication* of this treatise, I have seen an instance of a dislocation of this joint in a horse, which was easily reduced by being immediately taken in hand, which puts this matter out of dispute; I say dispute, because some of our learned writers on the subject of horses, have boldly said, such a dislocation cannot happen.—Which extreme doctrine of theirs serves to shew how little such men are acquainted with that part of the anatomy of a horse, which relates to the nature of articulation. When this dislocation of the hume-

ral-bone is reduced, and not till then, I allow, it is very proper for the horse to wear the *patten-shoe* for some time afterwards, until the ligaments that cover the joint, have recovered their former tension and strength, towards which the frequent use of vinegar will contribute as much as any other application I know of.

The proper method of reducing all dislocations is by making extension both ways.

Then take of strong vinegar, enough, cold: saturate a woollen cloth therein and apply, by rubbing as hard as the animal can bear, three or four times a day; be tender the *first day*,—but afterwards the friction does as much good as the vinegar.

'Tis true, that by diseases arising from the contracted form of the feet, from consequent pain, and manner of standing in the horse, to ease these feet, the muscles of the shoulders occasionally waste away; and this is what is really meant by the terms *chest-foundered*, or shook in the shoulders, which mistake arises from not understanding the nature of feet. So, from the pain occasioned by a *spavin*, or other disorders in the joint of the hock, the muscles of the hind quarter will frequently waste away also; but it will be equally absurd in either of these cases to say, that the lameness of the horse is in the shoulder, or in the hind quarter; in both these cases the cause is the same, *namely*, great pain in the feet and a bad habit of standing. And yet it must be allowed that from any violence

received on the shoulder, the muscular parts may waste away, in like manner as in the human species. But, to set this matter in the clearest light, it is worthy of observation, that where *both shoulders* are wasted, you will readily perceive the cause of it in *both feet;* but if both feet are not concerned, or one shoulder only be wasted, it is owing to some impression or violence upon the nerve, or an artery, for which, I believe, there is no remedy in either case. These distinctions, though apparently trivial, are so far of use, that they may be the means of preventing our punishing the animal to no purpose, which too often happens, from our not being acquainted with the real *causes* of the disease.

PARING THE TOE.—To prove still further that shoeing is but a partial good, let us examine another kind of foot, one that is become shelly and broken, the crust thin, or the heels low. Turn such a horse out to grass *without shoes*, rasp the foot short at the toe, keep it constantly rasped as it grows, and we shall find that such a foot will, in a short time, flourish again, and become just as it was in a natural state, when he was a colt. And here let me add, that it is much to the advantage of all colts to keep their toes short. *Mares*, also, in foal will, by this means, carry their load much easier. Discretion being had thereunto, as in paring the human nail, which, if cut too close, will cause a temporary soreness. Nevertheless no harm, except an immediate soreness, which will soon go off, attends

cutting the toe of the horse even to the quick, as I shall shew immediately.

If you have a horse, whose foot is *fleshy*, or whose *sole* is higher than the crust, take him and cut him round at the toe, till the blood follows, and stands in drops; then turn him to grass barefooted, and he will in a short time make a new shoot at the coronet, the weak crust will become by degrees more solid, and the thin sole more obdurate; the heels, also, will get high and strong, and behold, where you could not before well find a place to drive a nail, the whole foot is now rendered tough and firm, will bear hammering like a piece of board, will carry as flat a shoe as any other kind of foot, and will continue so to do, if it be never pared or stopped! Provided always, the interior parts of the foot have not been injured by any specific disease or accident. Hence it is manifest enough, that all horses, when turned to grass for any length of time, should have their shoes taken off, and their toes kept rasped round and short.

The *feet of stallions* are also best without shoes, whether they are kept at house or abroad; the crust at the bottom of the foot being occasionally pared down, according to the depth, strength, and growth, thereof. In proof hereof, let any man keep one foot of a stallion so managed, and the other in a shoe, he will soon find a wide difference between the two feet. Hence it follows, that all breeders of horses should be well versed in the different kinds of feet; the laws of nature seldom

varying in this or any other respect, though they are so often contravened by man. Among these we may reckon the mistaken judgement of our grooms in the indiscriminate custom of *stopping* and *greasing* all sorts of feet; for greasing and stopping those feet, of which we find *the crust* weak, and the *sole* spongy, will have the effect of rendering them weaker and still more spongy: on the contrary such feet cannot be kept too dry, at the bottom, or at the sole and heel.

Nevertheless, it is necessary to anoint the coronary-ring of such weak feet with some cooling oil, ointment, or mucilaginous composition, to keep it pliant, and free from contraction and rigidity. *Urine* will also render the crust of weak feet tough, and help to consolidate the sole. On the other hand, the hoof being capable of contraction and expansion, strong feet cannot be too often anointed with *tar* or *oil*, for the reasons before given.

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## CHAP. V.

### *Of Lameness from various Causes.*

DISEASES WITHIN THE COFFIN.—From the time of *Lafosse*, to whom the patient inquirer into the structure of the horse is so much indebted, to the present year inclusive, what a deal has been said, and to how little purpose, on fractured bones within the foot! "For my own part, I (William Osmer) have

never seen any such thing, but can easily give credit to the *possibility* thereof." [What is more, "dislocation of the coffin-bone," or "disease of the navicula," about which so much has been said, by way of displaying their learning, can never be ascertained with any serviceable degree of precision; an after-death examination being the only clue to its having existed at all, unless they will consent to take heat, tension, and evident enlargement of the cartilaginous processes of the coffin-bone to be symptomatic of "fever in the feet," as it is; and we needed no further addition to the nomenclature of diseases, which it seems to be the aim of the present author to reduce in number, and to divest of their complexity. When the tension or rigidity at the coronet and heels supervened without extraordinary heat, *old Bridges* termed the attack, *numbness of the foot;* and he was quite correct enough, when coupled with the former term, or *fever* in the foot, when this symptom evinced itself to the touch; always keeping in mind, however, that the two disorders require a totally different kind of treatment—the foot *benumbed* by a blow standing in need of re-animation, whilst the one heated by painful exercise, or by sprain, would require the greater access of blood to the foot to be retarded by the cooling process, or to be suffered to escape at the toe.

[No difficulty exists in allowing that such a misfortune happens, sometimes, as dislocation of the joint within the foot called the *coffin-joint*, though

we of this pen never met with such a case, nor can we see how it could readily occur in a box or coffin like the hoof. Neither do those advocates for it treat the disorder according to the term given it—namely, a *dislocation,* which requires *extension above and below,* to bring the joint to its just articulation; but they make the animal stand upon the injured limb, as they do when the injury is less severe, and they then term it "strain of the coffin-joint," meaning of course *sprain;* for the cure is only to be effected, as just said, by *straining,* or "making extension both ways."

[*Navicular lameness* is a much more probable, but not more easily curable disease of the foot. Let us see how it is so often incurred, without any term whatever being applied to it; and endeavour to propose a remedy, or to suggest preventive measures.

I have seen many instances of sudden lameness brought on horses in hunting and in racing, simply by a *false step,* which have continued lame their whole lives. Upon after examination, I have found the ligaments of the nut-bone, or navicula, rendered useless, for want of timely assistance and knowledge of the cause. Hence, the cartilages of the same have been sometimes ossified—and the bones of the foot have been some times *wasted,* and at other times *enlarged;* it being no uncommon thing to meet with a horse, whose feet are not *fellows,* the natural form of the injured foot being generally altered hereby. After mature consideration, I am convinced that nothing can contribute more to such an accident,

than the unequal pressure of the foot in our modern concave shoe.

OF STIFF JOINTS.—The stricture occasioned by a deep crust, and narrow form of the foot, with hard riding, and much ill usage, will also produce ossification of the cartilages of the joint of the foot, termed the *coffin-joint*, whence stiffness in the part always ensues. This may be considered a spurious *anchylosis*. There is also another kind or degree of anchylosis, by which is to be understood a total loss of motion in the joint, the first kind being marked by suffering only some small degree of it.

*Joint-oil.*—In every joint there are numerous glands, the use of which is to secrete and pour forth in action a certain mucus. To these are added certain vessels, that discharge a thinner fluid, which, being mixed with the other, makes a liniment of a proper consistence, whose use is to lubricate and defend the ends of the bones; all which, for the sake of promoting motion, are covered with a cartilage, or gristle. Now, when these glands are inflamed by severe work, they grow occasionally rigid, pour forth more sparingly their mucus, and at length become dry and indurated. Hence, I have been led to think this ossification of the cartilages is but a secondary disorder, depending on the state or diminished quantity of this mucous liniment. That such an inflammation attends the *glands*, I have seen frequent instances; one, where the fetlock-joint of a hunted stag had been cut asunder in the summer time, when the

leaps were strong, and the ground hard and dry; the mucus thereof having been found of a very sanguine colour. Who, then, shall doubt the same may happen to the horse, especially when another weight is added to its own? Moreover, there are instances, where the mucus of the joint in *human bodies* has been so diseased, either by accident or bad habit of body, as to corrode the cartilaginous ends of the bones; and this will account for the *true anchylosis* in some measure; which entire coalescence of a joint can never happen, without some corrosion in the cartilages thereof.

OCCASIONAL LAMENESS.—The glands are liable also to disease, as well as other parts—and the long disuse of a joint from a continued and casual lameness, where the glands of the same are not primarily concerned, is capable of producing the spurious anchylosis, from the thickened and inspissated state of the mucus; which inspissation happens from want of friction of the heads of the bones upon each other. Hence, the particles of this mucus not being divided, there will be a crispness in the ligamentous fibres of such joint. This inspissation of the mucus from any other cause, will account for the reason why the horse, which goes lame out of the stable, becomes, by degrees, more sound; namely, because the heads of the bones do, by their action, attenuate this mucous fluid, whereby the parts are better lubricated. For this disorder, turning the horse out, or keeping him loose in some open building, will much con-

tribute to his advantage, though it may not effect a complete cure.

On the contrary, a joint may, in great measure, be deprived of its usual motion by *redundancy* of this mucous fluid; which may be produced by bad habit of body, or because the vessels called lymphatics, which are appointed to absorb, or receive the same, are not able to perform their office. The *mucus*, or genial secretion, then becomes *pus*, or matter, that tends to corrode or destroy the parts: it is particularly dangerous near joints.

*The fetlock-joint*, also, is liable to frequent lameness, from blows received thereon, whereby the ligaments surrounding it become inflamed and rigid, and the integuments are thickened or indurated.

Lameness may be occasioned by strains of the muscular, or tendinous parts of the leg, continued down to the foot of the horse; and acquire the terms windgall, running-thrush, splints, ring-bone, canker in the foot; straining the tendons, and what is called a *letting-down*, or relaxation of the sinew, as well as broken bones and dislocations. These which have been recited, with those in the foregoing chapter, are the only kinds of lameness, I have ever been able to discover attending the *fore part* of the horse; except such tumours as are occasioned by the crisis of a fever, or by injuries received from extraneous bodies. And I have been the more particular in setting forth the nature of some of these, that the unskilful may not be

imposed upon by the ignorance of farriers, nor the horse punished with medicine for incurable disorders.

In the *hinder part* of the horse, lameness is much less frequent than in the fore part, and less various.

A DISLOCATION OF THE HIP, or whirlbone, happens very seldom; and whenever it does, it proceeds from a rupture of the round ligament, occasioned by some violence, or an *elongation*, i. e. strain, of the same, from a disease of the part; instances of both which I have seen in a bullock and a horse, as well as of fractures of the head of the thigh-bone, and of the *os ilium*, or hip-bone. As usual, in all such cases, it is very desirable that we should ascertain the seat of the injury and its amount. To distinguish with certainty which of these has taken place, it must be observed that when the bone is broke in either of these cases, the animal will in a few days begin to rest upon that leg a little, and gradually more and more, till the bone consolidates, and becomes united: but, when the round ligament is ruptured, or elongated to a certain degree, the head of the bone falls from the socket, the leg swings, the animal cannot rest upon it at all, and by continually bearing all the weight upon the other leg, he soon becomes lame of that also, and, at last, does not choose to stand at all. Moreover, in the case of *elongation* or rupture of the round ligament, the whole limb becomes longer; but in the case of a

*fracture* of the thigh-bone, it becomes shorter; whilst in a fracture of the *os ilium*, this shortening may or may not happen, depending alone on the nature or manner of the fracture.

But the common lameness attending this joint is occasioned by the relaxed state of some of the ligaments belonging to it, brought on by some strain at first, and by exercise continued on a weak part. These are,—1°. Capp'd hock. 2°. Thoroughpin. 3°. Spavins. 4°. Curb.

1°. From a sudden strain, or continued exercise on such weak part, a swelling will arise on the *hock*, attended by lameness.

2°. From a sudden strain sudden swellings will arise in the cavities on each side the hock, attended with great pain.

3°. Of SPAVINS there are two sorts; one called the *bone-spavin*, the other *bog*, or *blood spavin*.

A CURB is a swelling on the joint of the hinder leg below the hock.—All these are generally productive of lameness.

*Symptoms of lameness.*—These different kinds of lameness befalling the hinder parts of the horse are, I think, easily distinguished from each other by their effects on the horse, when put in motion. For instance, if the horse, when made to go on, be lame in any of the muscular parts belonging to the foot, he will endeavour to give the foot ease, by not setting it fully on the ground; but, if the lameness be in the *fetlock-joint*, or the *tendons* of the leg, or proceed from *thoroughpin*, or be in the

*hock*, or proceed from any swellings surrounding *the hock*, or be occasioned by a *curb*, or *spavins*, or *canker*, all such causes will be very manifest to the eye. If the lameness be in the *stifle*, he cannot so well perform the extension of the limb, but will drag his toe upon the ground, more or less according to the degree of injury he has received, as in the manner of lameness in the shoulder before described (page 33); and if it be in the ligaments belonging to the joint of the hip, or *whirlbone*, he will, in such case, rest his foot fully upon the ground, but will halt or step short in his trot with that leg, and yet perhaps be very sound in his walk; and these rules cannot vary, because the parts affected do, from their nature and use, if understood, readily point out the true cause, or *seat* of complaint; that is to say, the motion of the limb will be certain and determinate, according to the injury done to particular parts.

TUMOURS.—Another species of lameness there is, which, according to the jockeys' style, proceeds from *the humours*. But most of the learned world who have wrote on this subject, have made themselves merry with the jockeys and farriers, for using the word *humours*, when the horse is supposed to have a crazy constitution, or bad habit of body. And yet, herein the learned and unlearned both mean the same thing, as appears from the *practice* of the one and writings of the other. The unlearned, in this case, administer physic and pissing-drinks, put in rowels, and turn to grass; the

learned recommend purging, and alteratives, and salt-marshes. But as all words are arbitrary, and at the will of the imposer, it seems of little consequence what choice we make of words, provided always they are used to bear a determinate meaning; so that, for the sake of peace, distinction, and custom, I am well content this good old phrase should stand its ground unmolested.*

There is lameness, then, proceeding from vitiated *humours*; that is to say, the blood and juices in some constitutions being thick or viscid, and not passing readily through the several canals of circulation; hence, obstructions arise, by which the soft parts are affected with pain and swellings, and lameness ensues, sometimes in one part and sometimes in another; and, though they may not always engender *matter*, and become tumours, yet are both ascribable to the same cause.

Pray, then, let me ask, why is not the word *humours* as proper here as any other word, if not applied to any other purpose?

* "We have agreed to call this disposition to contract diseases *the humours*, for want of a better term; which we consented to illustrate by allowing that it may be '*the humours* diverted from their healthy course,' whereby the animal system is vitiated, and lies open to incur the first attack of any sort which may supervene." Vide Hinds's Veterinary Surgeon, page 331.

## CHAP. VI.

### *Medical and Surgical Treatment of Lameness; Prescriptions, Operations, and Stable Management.*

GENERAL REMARKS: *Errors.*—When the seat of lameness in the fore part of the horse is not easily ascertained, the generality of persons about the stable boldly insist that it lies in the shoulder; whilst a few, better taught, say that it exists only in the foot. What barbarities the first set practise was noted higher up (page 31); these latter, having fixed upon the right spot, first proceed to blister, and then to fire upon the coronary-ring all round, at various intervals of space.

But blistering inflames, and firing contracts the coronary-ring, which is, or should be of a pliant nature, and renders it more rigid; the effects of which would seem to want no annotations, though I shall enter into some particulars shortly, when treating of that most frequent of lameness—strain of tendons, fetlock, &c.

For strong and deep or narrow feet, keeping the horse at grass, or loose in a house, with short shoes, are very beneficial; and most horses with such feet, especially on training-ground, would do full as well, perhaps better, if their *fore feet* were not shod at all, but were simply kept rasped short at the toe, and their crust at the bottom occasionally pared down.

CONCUSSION.—For lameness arising from a *sudden false step,* which *Lafosse* calls *concussion,* and which he accounts for by the action of the coronary-bone, then pushing the nut-bone against the tendon, and compressing the same as between an anvil and a hammer, he has proposed two remedies, to remove the inflammation that ensues, and its bad consequences.—One is to draw the outer sole;—the other is to pare it, till it becomes thin and flexible, to bleed in the foot, and to use emollient poultices and fomentations round the foot and the coronet. Three-fourths of these cases, he says, are cured by such methods *without drawing the sole;* and I beg leave to add, that I believe all might be, if they were taken in hand immediately, and the crust or hoof were also pared down as low as possible, and rendered thin on every part;—because, the interior inflamed parts will be more relieved by external applications, when the thickness and stricture of the crust are removed, than when the *outer sole only* is pared away. But the great objection I have to drawing the sole, besides the cruelty of the operation, is, that nineteen horses in twenty (here in England I mean) have always been more or less lame afterwards, when used again, and that from contraction of the hoof occasioned by such operation. In either case a run at grass effects wonders.

COMPRESSION; or *ass-footed.*—And here I beg leave to add one observation more on the folly and

absurdity of our English shoers, with respect to their treatment of ass-footed horses, and which has been in part spoken of before, (page 30.) Now, horses with such feet being generally lame, it is a constant custom with these men to pare away all the outer sole of such horses as much as possible, and to render their feet hollow. By this operation they propose to remove the pressure or *binding* of the outer sole upon the inner, and so to cure his lameness, which, by the by, I never yet saw afford even so much as a *temporary relief;*—but if it did so, still it would be a *bad custom;*—for, the pressure or binding of one sole upon the other, is in this case owing to the depth and strength and contexture of the crust or hoof first compressing the outer sole. Hereupon it must be obvious, that by paring away the outer sole, which helps to keep the crust or hoof expanded and *open*, such crust or hoof is rendered deeper, stronger, and narrower also, than it was before; by which addition of strength, depth, and contraction, the outer sole, as it grows again, is also more strictly embraced and compressed than it was before; hence the pressure or binding on the inner sole is increased, and that still more, every time such outer sole is pared away, till the horse at length becomes so lame that he cannot well carry himself.

*Cure.*—But a little practice will prove that the only proper way of treating such feet is, to pare down *the crust* as much as possible, without falling

into the quick, to keep the frog high, and the outer sole full, and *even with the crust*, and to relax, and soften and expand the hoof by all methods.

COFFIN-JOINT—*strain or dislocation?*—But a *more severe* degree of *concussion (secousse)* than that just contemplated, occurs but too often, and is found to be replete with insurmountable effects and almost irremediable lameness. Mr. *Lafosse* calls it "a strong concussion," and directs us how to ascertain when it has happened, namely, by feeling an enlargement under the coronet, and by the great pain evidently occasioned by pressing the thumb against this enlargement; but then he cites two cases that were not cured, although the sole was drawn as he directs. Now, I very much question, but these swellings at the coronet described by him were partial dislocations of the *coronary-bone, i. e.* coffin-joint; and, though I would not detract in the least from his merit and skill in the anatomy of the horse, yet I am the more inclined to think him mistaken in this particular, because he lays it down as a rule, that *the coronary-bone will admit of no dislocation*, being so securely tied round by ligaments, tendons, cartilages, and the construction of the hoof; whereas, in fact, all bones, which help to compose a joint, and that are capable of motion, are capable also of dislocation; and that this coronary-bone is capable of such motion will be easily proved by examining into the use or functions of *a muscle* which is inserted into it—the

foot and pastern-bone having each of them also a muscle inserted to them. Now, the tendons of these three muscles may occasionally perhaps become united, from hard labour, so as to appear one tendon; and yet, in fact, what is commonly called the great tendon of the fore leg has three distinct muscles, with three insertions into these three bones before-named.

[This doctrine regarding *dislocation* of the coffin-joint, or, as they *now* mollify the term, *strain*, and that twin produce of concussion "navicular disease," (see page 38,) having brought up a good deal of discussion lately, and more assumption of superior wisdom than seems befitting men of real science, deserves a timely word or two, *in this place* above all others. Had they the tact to describe when we might ascertain, by apparent symptoms, the existence of either disorder, or to discriminate one from the other, which might probably lead to the application of some remedy, we should have owed to them our thanks; but they do neither, because none pretends to have *seen* either the *strained coffin-joint* nor the *navicular disease*, nor do they appear to know aught more of the matter than is contained in the foregoing pages of *William Osmer;* as indeed, how could they, seeing that they do not examine dead *horses* at the College, but confine all their physiological researches to the dissection of *the Ass!* No matter to our present purpose whether our author be more correct than *Lafosse*, or whether the "false step" spoken of

at the head of Chapter V. (page 37,) be only a minor injury of the same nature as this *partial dislocation*, brought on by the *more severe concussion (forte secousse)*; yet this we must insist upon, on behalf of *Osmer*, that when the professors thought proper to adopt his doctine regarding the displacement or injury of those bones, they ought in common candour to have acknowledged the source whence they derived their new lights; they should have hinted at the origin or authority (at least) to which they were indebted for their information, first notion, or primitive idea. But they do not so: they claim to be *discoverers;* although neither they, nor their pupils who cry them up, ever pretend to have seen this disease, upon dissection. Neither does *Osmer*, as regards the greater injury, though he says, of the lesser injury, "upon examination I have found the ligaments of the *nut-bone* rendered useless;" that is to say, ossified. And so are the *cartilages* of the *coffin-bone* by the *greater injury* or *severe concussion*, disposed to ossify and to communicate the same tendency to all the similar processes of the internal foot—to tendons, ligaments, and muscles alike; whereby the foot acquires the disorder formerly termed "numbness," *i. e.* want of feeling and want of action, or *incurable lameness.*

[After all, it signifies nought which of the two diseases has been incurred, if either be suffered to make head; it terminates the same, unless the heat, tension, and lameness be reduced in the first stage. But none of those discoverers or writers *tell us*

this, nor how to take measures accordingly; they wait until "called in for advice," upon the *Guinea-trade* system: to one of these writers—Mr. William Percivall, a worshipper of Mr. Coleman's—we would say, that "we heartily wish he would employ himself to better—he cannot to less—purpose," than the Guinea-trade. He is a good *writer* notwithstanding; and we said so much of him *heartily*, before any one else said the same thing—if they ever did.

[Notwithstanding the pretensions to novelty, just noticed, these ailments were known to the earliest writers on farriery: they appear among the *sorances* of *Gervase Markham*, two centuries ago, who attributes these as well as strain of the pastern-joint, "to some *wrench* in the stable, when the planchers are broken under him, or by treading awry upon some stone or cart-rut, as he travelleth by the way." *Master P.* p. 230. We are disposed to treat both degrees of *concussion*—whether that come of treading awry, or upon some stone, or a blow on the hoof—all in the same manner as one disease, but *differing in amount*, and as a species of ailment more likely to come of hunting over uneven ground than any other. The rider generally is cognizant of the accident, for the horse goes lame immediately. He should, then, *put up* as soon as possible; most certainly dismount and lead his disabled nag, and at any rate, upon coming to stable, set about the remedies. If the horse has gone lame gradually, at or after coming home, the lameness arises from this being the *leading leg*, and the superior batter-

ing it has received in the journey or run, causing the blood to flow thither, and that in a bad state probably—this is *fever in the foot*, and is to be got rid of by cooling physic and cold applications, with a run at grass to complete the cure. And so is this of *concussion of the bones within the foot*, whether of *navicula* or of *coffin*, only that this latter kind of attack being caused by a larger injury, and much more likely to cause the loss of a foot—and of course the whole horse—requires more assiduous care, and takes a longer time in removing.

[The *symptoms* of the larger injury being incurred,—next to the sudden concussion and lameness,—are, great heat of the whole foot when compared to the corresponding one; tenderness at the coronary-ring, towards both quarters and heel, where may be felt an enlargement of the coffin-bone at its upper edge; whence proceed strong cartilages that now harden through increased action of the blood, and where it is (so we apprehend) that the main injury has been sustained, and sufficiently near the joint, it is most true, to acquire the term "strain of the coffin-bone-joint." When the main injury has fallen on the *navicula*, or nut-bone, the same first symptoms supervene, and the sense of pain will be evinced by the patient upon pressing the finger in the region of that bone at the cleft of the heel, and bars. Either attack will cause ossification of the cartilages and ligaments in a few days, according to the bodily health or robustness of the subject. Bleed and purge, and give the

white waters (as oatmeal-gruel) and soft meats, followed by green food; if these reduce the heat and tension of the foot, do not bleed again, under the idea of following up the cure, nor purge unnecessarily, nor until six or eight days' end. All this while stop the foot with cooling materials, as cow-dung, oft changed, hand-rub the legs and heels and in front well, after washing it (and all the legs) in warm water, not hot. If the pain and anguish affect the coronet all round, or higher up, bandage the legs at night, but do not stop the circulation. Should the pastern-joint feel the influence of the pain, a turnip-poultice once or twice, in which is a solution of salt, will alleviate pain: apply it by means of an old stocking, and hempen cloth outside it. Take the stocking *entire*, draw it on, and tie a ligature round the hoof under the coronet to the heels, and fill the stocking from above; make fast by strong tapes, or web, across and athwart the withers and chest. Take off the whole after six or eight hours, hand-rub the leg, and then bandage from foot to knee with several yards of web, passing spirally upwards, over a piece of woollen, just tight enough to keep up; the feet being stopped with the cooling applications during all these operations, and changed as often as may be at first, or twice a-day at least. Those means usually prevail, in reducing the heat, and with it the tension and enlargement within the foot, and must be followed by a *run at grass*, as in every other case of lameness. If they do not succeed, the ossification goes on, and the animal is lost to his owner: *firing* and

*blistering* the parts have been long exploded; for they seldom do any good in such cases, only inasmuch as rest and a run at grass necessarily follow the application of the ever barbarous cautery.

*STIFF JOINT.*—(See page 40), from all that has been said, then, we may set it down as an unerring rule, that

1st. Where the cartilages are ossified, there is no cure;—2d. for genuine *anchylosis*, or stiff joint, there is no cure;—3d. where the bones of the foot are either *enlarged* or *wasted*, there is no cure.

LAMENESS OF THE FETLOCK-JOINT: *i. e.* strained tendon. To remove *inflammation of the glands*, consequent upon a heavy field day, and to prevent induration and enlargement of the ligamentous parts, and the integuments of the *fetlock-joint*, the consequence of repeated violence, it is a good custom for all sportsmen to cause these joints of the horse, after a day's hunting, to be well fomented with flannels dipped in simple warm water, or, better still, in a decoction of some emollient herbs, as marsh-mallows; and afterwards some warm flannel cloths should be moderately bound thereon, for the ensuing night, as for want of this, or some such application, lameness often happens to the joint.

FIRING, DESTRUCTIVE.—To cure this *inflammation* the farrier *blisters*, or he *fires* upon the joint unmercifully; by either of which methods, applied whilst the parts are inflamed, the inflammation thereof is most certainly increased. Hence, callosity on those parts is most likely to be entailed for life,

instances enough of which we may see every day; although this practice is as much at variance with the disorder, as endeavouring to extinguish a fire by pouring spirits of wine thereon. For *lameness at the tendon* the mistaken man adopts the same destructive method of proceeding; but scarcely any other blunder committed on the sick horse is more demonstrably erroneous than this one of *firing*. To this end, let us examine the structure of the parts to be acted upon. All tendons are enveloped in a sheath, each, whereon are situate many small secretory *glands*, that are forced by the *action of the tendons* to pour forth a *mucus*, which serves to lubricate the same, like oil, and to keep them from growing dry and rigid, as otherwise they would do, like any other cord or string. Between this sheath and the skin of the leg, where nothing intervenes but a thin *membrane*, what hand can determine the boundaries of these bodies, whose appearance, by the heat of the iron, is made undistinguishable to the eye?

Now mark the effects of firing, in its several degrees of severity. 1°. If the fire reaches no further than the skin, no advantage can accrue to the tendon, but the fibres of the skin will become contracted, and less pliant;—2°. If the fire reaches *the membrane*, or sheath of the tendon, some of its *glands* are destroyed, and the tendon becomes more or less rigid;—3°. If the *tendon* be burnt, the consequence will be still worse; and in either case the velocity of motion will be impeded: no man, I

believe, remembering a race-horse once fired, equal to what he was before. Firing then, as a last resource, will act as a bandage; and although it is sure to spoil *the racer*, it may on some occasions be found beneficial to horses of the third, fourth, and fifth description.

CURE.—In both cases of inflamed fetlock where the skin or ligaments surrounding the *joint*, or a *tendon*, is inflamed or enlarged by repeated violence, or exercise continued on a weak or inflamed part, the following method may be used.

Bleed your horse plentifully, and give him a mild purgative, as cooling salts, let the injured parts be fomented twice a day with the decoction of some emollient herbs boiled in water, such as white lily roots, marsh-mallows, elder leaves and flowers, bay leaves, or the like. Turn him loose in some open building. The parts, when dry, are to be rubbed with elder-ointment, as a cooler, and some of the fomentation is to be thickened with oatmeal, to the consistence of a poultice, and kept thereon, by the same means as directed at pages 53 and 54.

When the induration and tension is gone off, a *cataplasm* may be applied twice a day:

*The Salt Cataplasm.*

Take of table salt..... 6 oz.
Whites of eggs..... 2 oz. fluid.

Vinegar and oatmeal enough to form the poultice of a due consistency, and apply by means of the

stocking. (See page 55). When the poultice comes off, bathe the parts assiduously with vinegar, *cold*, because heat evaporates the subtile spirit thereof. If these remedies do not avail, why then the use of blisters, after those previous evacuations have taken place, may *perhaps* be the means of effecting a cure, by unloading the vessels contiguous to the parts affected. On all such occasions the horse should be turned *to grass*, and indulged with proper rest, that the diseased parts may recover their former fineness, tone, and strength.

With respect to *rest*, the farrier has a great advantage over the regular practitioner by his blistering and firing; because the leg is so inflamed thereby, that it is impossible to ride the horse for a considerable time after the operation; so that, if he happens to get sound, it is generally thought to be the effect of the blistering and firing; which ought, in reality, to be imputed to the rest he has had, and to nothing else. But when any other method has been used for this purpose, and the part looks fair to the eye, the rider mounts, his horse is lame again the first day, and the groom wisely concludes, he will never stand sound without being fired. Than which nothing can be more impotent; for let any man, who has ever strained the tendon of his wrist or ancle, reflect on the pain he has suffered from the least motion of the parts; and how long a time has been required, before he has been able to bear the extension of such tendons, even when all appearances have been fair. Will not the case be

the same with the horse? And is not rest plainly indicated—freedom from labour, in one case as in the other? And here I cannot help censuring the jockey, who, having his horse matched to run, and in his strong exercise the tendons become so inflamed, that he cannot be allowed *to gallop*, yet constantly takes him out morning and evening to give him *walking exercise*, by way of keeping down flesh and keeping up his wind.

But this walking exercise can contribute little towards keeping him in wind, or making him otherwise fit for the race, yet still helps to fatigue the tendon. Whereas, if the horse was kept quiet, and proper prescriptions applied to the injured part, it is very possible he might recover soon enough for his purpose. Therefore, when it is thought improper for him to gallop, it must be much better for him to lie quite idle; and the most proper applications I know of in this case are to bathe the parts with cold vinegar, to rub in some cooling ointment when it is dry, and to renew the salt cataplasm (page 58) twice a day; salt, externally used, being the greatest *discutient* I am acquainted with, and taken inwardly it is an excellent *deobstruent* also.*

The use of ardent spirits, so often recommended, do harm to tendinous parts when there is any tension, because, if then applied, these render the

* See *Table of hard words* at the end of this volume for an explanation of those *hard words;* and, for the virtues of *Salt*, consult the Appendix to GROOMS' ORACLE, under the word *Salt*.

fibres rigid; but, when the tension is gone off, such may help to brace and strengthen the parts. A high-heeled shoe will also be of signal service in this case, as it helps in some measure to keep the tendon relaxed. See, also, pages 10 and 30.

*Shoe for lamed tendon.*—To conclude this part of my topic, I beg leave to repeat what has been said in part already; namely, that all lameness in the tendons of a draught, road, or running horse, happens generally from the *unequal surface* of our modern concave shoe, and from robbing of its proper support that *tendon*,—which is continued to the bottom of the foot, and there become the *sensible* sole, by paring away the frog unmercifully. Hunters, indeed, may occasionally contract lameness in the tendons, from various injuries and violence received in their different kinds of work, and are very liable thereto, as hath before been noticed.

WINDGALLS do not always occasion lameness; though they be proof of over much work. The method of curing *windgalls*, according to the present mode, is various; but before any thing is said touching this practice, it is necessary to shew what they are; and, first, as to the *cause*. From strains, or blows received on the tendinous or membranous parts, the juices of the glands are poured forth into the cells of the membrane, and become enveloped in a *cyst*, or bag. Its contents are similar to the white of an egg, and the disease is sometimes termed *ganglion*, similar to that on the human wrist.

*The cure* is attempted by some farriers' letting

out the contents of this *encysted tumour* with a knife or lancet; which is always sure to fill again when the wound is healed, after having been attended with much pain. Others *blister*, which for a time seems to have discharged the swelling, but when the horse comes into use it soon fills again. Others, again, fire upon the part, by which the outer tegument, or skin, is rendered rigid and indurated; hence the pain occasioned by these tumours becomes greater than it was before, and the horse is fit for nothing but the cart.

But the proper method is to make an incision into the skin, and take off the same with the bag, and its contents. Sometimes these *cysts*, or bags, lie superficially on the coats of the *three flexor tendons* (which are by all writers called *one*, and known by the name of the great sinew) and sometimes they are buried and continued from one side of the leg to the other, through and betwixt the interstices of these tendinous bodies. In such cases, also, the cysts must be dissected out, and entirely destroyed, or else the wound most frequently becomes fistulous, or the cysts fill again; but when the cyst lies deep the operation is very difficult, and dangerous too, chiefly on account of the horse's struggling. See pages 10, 42, 44.

Besides those there are other *encysted tumours* incident to the horse, the difference whereof consists only in the nature of their *contents*, and which are to be cured after the same manner as the former. By the way, *dogs*, also, are subject to this disorder, on

the knee; for the cure of which, blistering and firing are improperly used: thus, many a good fox-hound has been spoiled, that has been of more utility to the world than two farriers. Many of these I have cut out with a pair of scissars, leaving the cure to be finished by virtue of the dog's tongue.

SPLINTS are another of the consequents of hard work, or of concussion of the bones. Splints will sometimes occasion lameness, but if they do not, it is much better not to meddle with them at all. The use of *blisters* on these does little more than inflame the parts, and the use of a *hot iron* often rouses a sleeping lion; the bone of the whole leg being very often *enlarged* thereby; but when they do occasion lameness, they may be destroyed by *mild caustics*, that will not, if properly applied, leave any permanent *eschar*, nor even occasion the loss of hair.

Take of Spanish flies, powdered .. half an ounce.
Oil of origanum ..... 1 drachm.
Corrosive sublimate ..... 1 drachm.
Hog's lard ..... 1 ounce; *mix*.

Clip off the hair, and apply some to the part, repeating it occasionally, a little at a time, for several days, till an *eschar* begins to separate, keeping the horse's head tied up all the while, lest he gnaw it. When the eschar appears, the blister ointment is to be scraped off, and the part anointed with some cooling oil; after which nothing more remains to be done, than to turn the horse to grass, and keep

the part daily touched with train oil. By these means, various eschars will scale off one after another, till the part becomes smooth and well.

But from the effect *spirit of salt (muriatic acid)* was found to have on venereal nodes, I was induced to try the virtue of it on splints, bone-spavin, and other *nodes*, which, when applied with caution and prudence, is a wonderful remedy in these cases. The acid may be used in its concentred or strongest state, by a steady hand, whereby the splint will be completely reduced, but until expertness in the application is acquired great care is necessary. Meantime let it be diluted with a third part water, and even in this reduced state it has the effect of destroying the skin, if allowed to touch it. See page 41.

LETTING DOWN.—For this, or as it is better termed, a *relaxation of the sinew*, the best remedy is to apply an astringent poultice.

Take of Milk ..... 2 quarts.
Alum, powdered..... 4 ounces;

boil the milk, and, as soon as it rises, add the alum: curds and whey are the product. Foment the part with the whey, and bind the curds thereon by way of *cataplasm*. After a few days, *colcothar** 

* *Colcothar, or chalcitis,* a very useful preparation of vitriol, in the veterinary practice, but upon which the moderns have unaccountably turned their backs. Take of common green vitriol (vitriolated iron), put it in a fire-proof pot, or crucible; let the fire be gentle, but sufficient after awhile to turn the vitriol to a red colour. Any vehicle may be employed in mixing up—except those of a greasy nature.

*of vitriol* finely powdered and mixed with white of eggs, is to be applied as a *charge* every twenty-four hours, and a smooth bandage kept on the part. Remember that the use of oil in this, or any like case must do harm, because its tendency is to relax the fibres of the tendon, which are already *too much relaxed*, and constitutes the disorder.

SHOULDER-STRAIN.—When the muscles and ligaments of the *shoulder* are strained, keep the horse tied up and free from motion as much as you can. Warmth, discutient fomentations, or the frequent use of vinegar, will probably restore the lamed *patient;* but the muscular parts generally recover much sooner than the ligamentous or tendinous, and the animal *appears* to be recovered long before it is so in reality.—See pages 31, 33, 34.

SPRAINS OF JOINTS.—Extension and counter-extension are proper methods of reducing all joints.—Vinegar and the salt cataplasm is to be used after the reduction of the *bone;* a *bandage* should be applied round the joint, and proper rest must be allowed.—*Oil* or *ointment* is to be avoided here; because the fibres in these cases want to be braced, and not to be relaxed, as just before observed. But if there be already great *distension* attending the sprain, with inflammation of the parts, such should be relaxed with oil, before the reduction of the bone is attempted.

WHIRLBONE-LAMENESS.—In the case of a dislocated whirlbone, where the head of the hip-bone is fallen down from its socket, either by rup-

ture, or *elongation* of the round ligament, I believe it is vain to think of a remedy. But where the ligaments surrounding the joint are supposed to be relaxed, *blistering* and *firing* (which are always coupled together like two hounds) are the methods generally followed. Here it must be allowed, that *blistering*, if it be ever proper, is in this case likely to be of use, by inflaming the parts, and giving a new and increased heat to the flaccid and relaxed fibres: it may be occasionally repeated. Warm strengthening *charges* should be applied afterwards, and proper rest given. But, all that *firing* can effect, on this or any other occasion, seems to be, that by contracting the *fibres of the skin*, the relaxed fibres of some part underneath may become more strictly embraced; which cannot happen in the present case, because there are strong muscles intervening between the skin and the ligaments; and I think that firing seldom is of much use in any kind of lameness whatever. But, according to the best of my observation, more horses are undone than are benefitted by it.

*Stifle.*—For the same reason, when lameness happens at the stifle, I have found *blistering* the most immediate and effectual remedy.—On this occasion, a broad piece of cloth should be kept on the adjacent part of the flank of the horse, to prevent the inflammation, which would be otherwise produced by such blistering on the stifle.

*Curb.*—By repeated *blistering*, a curb is easily cured, if taken in time.—See page 44.

ENLARGED HOCK.—If the joint of the hock is much enlarged, whatever be the cause, there is generally a redundancy of the *mucus*; and the ligamentous parts and cartilages will in all probability be affected. Here again the custom is to blister and fire; but here also, if the parts are inflamed, as they are most likely to be, blistering must be wrong—vinegar, or warm fomentations, with spirit of sal ammoniac, (or muriate of ammonia,) are to be used, and the cataplasm of salt should be applied twice a day.—In this, and all other inflammatory cases, cooling medicines should be given inwardly, and previous bleeding is often necessary.—But when these methods prove unsuccessful, blisters may then be tried, as a last resource, though I have never seen one instance of their doing good in this case, after a number of repeated trials. But this disorder is usually incurable, by reason of the ends of the bones being in this case often enlarged.

THOROUGHPIN.—When sudden swellings arise in the cavities on each side of the hock, bleeding is necessary; the part is to be bathed frequently with cold vinegar, the salt cataplasm is to be used, and such a bandage with bolsters on each side applied, as will most effectually compress these swellings; so will they disappear, and the horse become sound.—See page 44.

CANKER.—For a canker in the foot; *powdered verdigris*, blue vitriol powdered, and *bole armoniac*, with vinegar added to the same, will generally be

found a sufficient remedy.—If the case be obstinate, a few drops of *nitrous acid* may be mixed therewith.—See page 41.

THRUSH.—*Running-thrushes* will be cured with lint dipped in strong blue vitriol-water thrust lightly into the part; but this discharge, once diverted from its usual channel, some more noble part may perhaps be affected, or blindness ensue. Wherefore, when this mode of cure is attempted, the horse should be immediately purged two or three times, and go through a long course of the *salt petre*, or some other cooling salts.—See page 41, and *Nitre* and *Salts* in Index.

BLOOD-SPAVIN is a preternatural expansion of the vessel passing over the hock. The general method of treating this disorder, is to make a ligature round the vein, above and below the swelling, to prevent further circulation; after which, blistering is usually applied to the swelling. But I think it a more certain cure, to make an incision through the skin, upon the swelled part, then to pass a ligature round the inferior part of the tumefied vessel, and to dissect the superior part of it quite out; after which it is to be dressed according to the methods that will be directed for wounds in general, in the next *chapter*.

RING-BONE AND BONE-SPAVIN.—As to these, I never yet saw any method of cure that may be relied on as effectual. But I know, that the usual method of curing these disorders, is by the application of some medicine of a caustic quality, which

being of necessity continued for a time, to produce an eschar, destroys the hair, and always leaves behind it a certain ugly blemish. But the most proper method is as follows:—

*First*, Clip the hair from the diseased part; and make several punctures on the same through the skin with a *sharp pointed instrument*;* then make a longitudinal incision through the skin, above the diseased part, about the middle thereof. There introduce a pointed probe, and dilate the skin with it, as far down as the swelling reaches. Next, make another smaller longitudinal incision through the skin below the swelled part, directly opposite to the wound above, in doing which, your probe introduced at top will direct you. At the superior wound a *caustic*, wrapped up in a piece of lint, is to be introduced, and there left. As the caustic dissolves, it is carried off by the inferior wound; the whole is directly to be covered with a warm adhesive charge—and this is the whole of the operation. The caustic thus introduced under the

* *The puncturing instrument* resembles somewhat a shoe-brush, the hair being substituted by a number of sharp-pointed high-tempered nails, acting like so many *lancets*. When these have been driven through a piece of wood (beech), another piece of the same size is to be fastened on the back of the former; and so much as may be deemed necessary of the instrument being applied to the diseased part, a tolerably smart blow will, of course, make as many punctures as the number of lancets that are so brought to bear. A design (*fig.* 2) is given of this instrument, which conveys a just idea of what it ought to be. The nails, or lancets, need not exceed half an inch each, and should be all of the same height. See *plate* 2.

skin acts both ways, namely, on the membrane underneath it, and on the outer tegument upon it; thus the membrane, the outer tegument, and the charge, throw themselves off together, and the diseased or swelled part becomes fair and smooth. The horse should be turned out, or kept in a loose stable, and if *the charge* comes off before the wound is well, another should be applied immediately. But in spite of this, and all other methods used for these disorders, the horse will very frequently remain full as lame as he was before, although *the appearance* of the disease is removed; the reason of which is, that the *periosteum*, or membrane that covers all the bones, only is then diseased; at other times the bone itself and its *cellular* part are so; yet, I dare say, there is not one farrier in this kingdom, but has an infallible and certain cure for all these disorders, alike.

FALLING DOWN OF THE HUMOURS.—The causes of those different species of lameness, may generally be traced to bad shoeing, or to known accidents, as was shewn in the preceding chapter, pages 37 to 46. There is also another almost inscrutable kind of lameness, that comes we know not how, and goes off again according to the general health of the patient, and is mostly observable after the horse has recovered from some notable sickness. The fact is, that the *humours*, or secretions, on which something was said at pages 45, &c. not going on aright, the vitiated effects thereof *fall down* into the feet, generally the fore ones, and

occasion lameness, that is not exactly discernible. *Osmer* advises, for lameness proceeding from what is called *the humours*, after bleeding and proper purgation, the cure is to be attempted by such medicines as will most effectually produce an alteration in the blood and juices; amongst which class of medicines I have found *saltpetre* to be very efficacious, when given daily, and continued for a long time; which may be done without any interruption of exercise, if there be no other cause to prevent the same.

# PART II.

## OF SURGICAL OPERATIONS AND APPLICATIONS.

### CHAP. I.

#### *The Nature and Treatment of Wounds.*

[*Definition.*—Wounds are either punctured, incised, or contused wounds: *i. e.* occasioned by a blunt material, as a stake or flint, &c.; or by a sword, knife, &c. These may lie *deep*, or are *superficial* only: *i. e.* far into the muscle, and are termed *deep-seated*, or else merely *punctured*; or simply consist in abrasion of the skin, by the horse being driven against carriage, wall, &c. They may either be *dependent*, *i. e.* the *mouth* or orifice downward, or they may be inflicted *high up*, on the withers, neck, croup, &c.; and are then very troublesome to cure, as the method of procuring the means of the *matter* running off, then becomes extremely difficult.]

WOUNDS OF THE FEET.—As to punctures inflicted on the feet, the rules laid down by Mr. *Lafosse* appear very accurate, and anatomically correct; for which reason I shall only observe, and would have it laid down as a general rule, that

whatever wound may happen to the coronary-ring, or the cellular spongy part of the heel, whether by *puncture, tread, incision, laceration,* or other accident, no medicine of an unctuous nature (except in case of *sandcrack)* is to be applied to the part; such applications always producing fungus or spongy flesh, which occasions much pain and inconvenience to the horse, as well as some trouble to reduce, which is only to be accomplished with caustics.

With respect to the treatment of wounds in general, there seems but little skill required, especially where the habit of body is good, the orifice of the wound *depending,* and there is room sufficient for the matter to discharge itself. The proper method of treating wounds in general, may be summed up in a few words.

If an *arterial* blood-vessel be wounded,* the bleeding will be stopped by making a ligature with a needle and thread round the upper end of the same. If the hæmorrhage, or bleeding, be small, lint dipped in flour, blue vitriol-water, or oil of vitriol, will generally have the desired effect. Over this the *digestive ointment,* as below, spread on tow, is to be applied, and the whole covered with a poultice of bread and milk. After two days this dressing should be taken off, and the part fomented

* When an *artery* has been divided, the blood issuing from it may be known by its not coagulating as venous blood does: it also flows with a jerk in unison with the pulsation, and not in a steady stream, like blood issuing from a vein.—EDIT.

daily with some warm fomentation, as below. The *digestive* also, and the poultice is to be continued till *the matter* appears pale and healthy, and the flesh of the wound begins to look of a red and florid colour.

### *Digestive Ointment.*

| | |
|---|---|
| Take of Venice turpentine.. | of each |
| Hogs' lard..... | 3 ounces, |
| Bees' wax..... | 1 oz. melt, & add |
| Red precipitate powder .... | 2 drachms, mix. |

### *Fomentation.*

No. I.—Take of marsh-mallows an arm full, boil in water an hour; and bathe the parts with it while warm, by applying the herbs in substance.

No. II.—Take of sage, lavender, rosemary, wormwood, centaury, camomile-flowers, or any of these, a sufficient quantity; boil in water, and apply warm, as above.

When the flesh about the wound begins to look red, nothing more is required than gradually to heal the same; to this end, the fomentation and digestive are to be laid aside; and, instead thereof, lint dipped in water, strongly impregnated with blue vitriol, to keep down the fungous flesh, is to be applied, and covered with a plaster of *Turner's cerate*.

If the *blue lint* should not be sufficient to keep down the spongy flesh, some drops of *aqua fortis* may be added thereto, or the same may be sprinkled

with *red precipitate powder*, and covered with a pledget of the above *digestive ointment* or the *serate*. Or, instead of this method, take *of blue vitriol*-powder one part, of bole ammoniac four parts; this is to be strewed slightly on the wound, and the same covered with a *poultice*: the quantity of *vitriol-powder* may be occasionally increased, its use being to keep down the growing spongy flesh.

The use of some such medicine or poultice continued even till the wound is healed, is much neater, and more eligible than the common method, and perhaps effects a better cure; for, by means of these, some discharge of matter is still promoted, even till the wound be well; whereas, according to the common method of healing wounds, some wash, or powder of an escharotic quality is generally applied to the part; whereby the wound is dried up immediately, with an eschar thereon, which scales off by degrees: but, by such immediate drying up, an indurated swelling often remains on the part, more especially if it be situated near a joint,—whence also *anchylosis* is to be feared.

WOUNDED TENDON.—When wounds happen to the tendon of a horse's foot, great pain and inflammation, perhaps fever, ensues, which requires to be reduced. But I once saw an instance of the contrary treatment, in which case a flexor tendon of a horse had been wounded by the point of a sharp flint, (as it was supposed,) in hunting. As usual in those times, a farrier was sent for, who, not discovering this small punctured wound, de-

clared the horse to be lame *in the shoulder*, as they generally do upon all occasions; and, to cure this shoulder lameness, he put a *patten-shoe* on the foot of the sound leg, that the horse might be obliged to stand upon the lame one: this gave him so much pain, by stretching the wounded fibres, that he did not chuse to stand at all.

After some days had elapsed, I was desired to look at the horse. Upon examination I found the true cause; the part was dressed with a medicine of an agglutinating quality, namely, lint, dipped in equal parts of the balsam of turpentine and oil of turpentine; this was covered with the *digestive plaster*, and a poultice applied over the whole. With some difficulty I prevailed on *the doctor* to take the *patten-shoe* from the foot of the sound leg, and to put it on that of the lame one. By these means the horse became well, and as sound as ever; for the extreme ends of divided tendons, if brought into contact, will, in a reasonable time, unite again as well as divided bones.

At this place it is necessary to observe, that all tenting of wounds is a pernicious practice; for, by thus stopping up the orifice, the matter, which ought to escape, is *confined;* the tendons, ligaments, and cartilages, are injured; and bones are rendered *carious* or rotten: besides other inconveniences, arising from the pain, inflammation, and fever consequential thereto. In like manner, where the matter lies lower than the orifice of the wound, and cannot flow out, it reduces fistulous cavities in the

parts; therefore is it always necessary to go to the bottom of such, by incision or otherwise; else no cure can be expected, but the contrary.

This is the case with respect to what is called *pole-evil* in the neck, and *fistula* on the wither; both which would be easily cured, if cut to the bottom as soon as they are ripe enough to open: observing carefully to distinguish between these cavities and the interstices or division of the muscles, and not to wound the cervical ligament, by cutting across instead of lengthwise. The proper method of treating these evils, after the necessary incisions are made, and the bleeding is stopped, is to fill the mouths of the opening with dry lint, and the wound to be treated in every respect according to the general rules before laid down.* But the farriers, in these cases, after making the incisions, always begin at the wrong end; that is to say, they make use of escharotic applications at the very first dressing; hence, a sufficient quantity of granulated flesh not being suffered to increase, the parts, when well, become indented, with an unequal surface, and much loss of substance; and the animal becomes crest-fallen to the end of his days.

DEEP-SEATED WOUNDS.—In all deep wounds of the muscular parts, caused by puncture, stabbing, sword-wound, or staking, the *orifice* of the

* Working-horses are most liable to pole-evil. An elaborate account of, and improved mode of treating those disorders of the countryman's team is given in *Hinds's Veterinary Surgery*, which it would be superfluous to repeat here.—EDIT.

wound should be made *wider*, as soon as can be: for such wounds do not discharge a laudable pus, or matter, by means of which the inflammation attending them would be carried off; but a bloody *ichor* flows therefrom, and the wound is ever ready to become closed again, if the orifice thereof be the most narrow part of it.

*Staked horse.*—When horses are staked in any part, the vulgar custom is to thrust a candle up the wound, as far as can be, and to keep it confined therein, by which mean numbers are killed. But, if any happen to survive, it is entirely owing to the constitution of the horse, the wideness of the orifice of the wound, and its depending state; for, if the matter in this case be confined, or not well digested, inflammation, tension, fever, gangrene, and death, most certainly ensue; whereas, the proper method of acting in this case, is to make a crucial incision in the orifice of the wound, which is effected in this manner, ×: let it be sufficiently wide for the matter to be discharged, according to the nature of the parts and the situation of the wound. Hereupon, the *lips* of this incised wound are to be filled with pledgets of lint, thrust gently between them, to prevent their uniting again, taking out those pledgets three or four times a-day, to allow *the matter* to escape, until it assumes a healthy appearance, when the pledgets are to be omitted entirely. If any considerable effusion of blood attend the crucial incision, it must be stopped by such methods as have been before directed for this purpose (page 73), and by

various others: but, whichever is adopted, let it be covered with the digestive plaster before-named, and a poultice applied over the whole. This dressing is to remain on the part two days; after which, such methods are to be used as is above directed for wounds in general.

SUPERFICIAL WOUNDS.—When shallow punctures happen on the joints or limbs, from thorns, stubs, or other sharp bodies, if such reach the ligamentous or tendinous parts, the small discharge flowing therefrom, once stopped by a medicine of a repelling or discutient quality, will generally produce great inflammation, with other bad symptoms, and much matter may be formed; and yet I have known several instances of such punctures, both in the equine and human species, cured by *fomentation*, and the use of *salt*. But, in all such kinds of punctures, emollient fomentations, with a poultice made of bread and milk, or oatmeal and strong-beer grounds, kept on the part, are the most eligible methods of cure.

*In lacerated wounds* of skin or muscle, a needle and double thread may be used to unite the divided parts, according to the depth and nature of the wound, leaving proper intervals of space between each stitch for the matter to flow out. To prevent pain, as much as possible, from the *stitching*, a roller bandage should be applied upon the part, and the divided parts kept together as much as possible by the bandaging: if not, the stitching will be painful: but if, notwithstanding this, great

inflammation ensue, and much matter be produced, and lodged in the part, it is necessary to cut away the stitches, and the inflammation will cease; but wounds of the skin will generally be cured by the simple application of lint dipped in *Friars' balsam.*

*Incised wounds* will also be cured, in general, by by the same means.

*In gun-shot* wounds, the methods before directed will take place, all foreign bodies being first extracted, if it can be done. A horse will carry a pistol-shot in him for years, without apparent inconvenience.

If an *induration* remains on any part when the inflammation is gone off, whether it be the effect of drying up a wound too fast, or the consequence of a puncture by a thorn, or other accident, the parts should be well embrocated with some cooling ointment, and the use of emollient poultices and fomentations. Repeated blisters will be found serviceable, when judiciously applied, to the induration left behind by deep-seated wounds.

Let the wounds, of whatever description, except gun-shot, be washed out clean with warm water, and the parts bathed therewith by the application of cloths; and, if a wound be deep, a syringe should be employed. The fomentations prescribed, at page 74, will have the effect of lowering the inflammation that ensues lacerated and contused wounds. In these cases give a purging ball, but not a strong one, unless the horse be constipated.

## CHAP. II.

### *Further Surgical Operations.*

BLEEDING the patient is an operation that is too frequently undertaken without any necessity, and even when no disease exists; is it, then, to be wondered at, that it should sometimes be performed clumsily and dangerously, leaving behind it a long and lingering disorder? Further, it happens at times that the operator hits so hard with his blood-stick as to divide the *artery* that lies just under the vein, and death would oftener ensue such an hemorrhage but for the opportune visit of a skilful veterinarian, to *take up* the artery, and thus prevent further bleeding. How this taking up is to be performed, is shewn in a preceding page, 73.

It also frequently happens, for want of proper care in bleeding at the neck, or afterwards, that a swelling falls on the part, attended with many bad symptoms; sometimes with the loss of the vein, at other times with gangrene and subsequent death. Delay occasions the most dangerous consequences; but, notwithstanding it is generally a long time in hand, it may as generally be cured in a few days, and that by the following means.

As soon as you perceive this evil effect of bleeding, the use of warm fomentations, cooling

ointment, and a poultice of bread and milk, will very probably remove the swelling. But if these methods do not succeed, a rowel is to be put into the skin, in the middle of the horse's bosom, and with a tobacco-pipe, or any other tube, blow up the skin quite to the part affected; so will an immediate derivation be made therefrom as soon as the rowel runs. If after this any swelling or induration still remains on the neck, it may now be removed by poultices and fomentations, or the following mixture may be adopted in the first instance.

*Discutient Lotion.*

Take Spirits of wine ..... 4 ounces,
Camphor ..... 2 drachms,
Bole armeniac ..... 1 drachm; mix and, with lint or tow, apply it to the part, and clothe the horse in warm hood and breast-piece, without which the application will be found little serviceable.

*Bleeding* has been frequently spoken of, in the course of these pages, as a highly necessary and judicious operation; cases occur, also, wherein it has been resorted to with the most unhappy consequences; for both points of information, the reader will consult the Index, which refers him to several other precautions to be taken, if he would avoid dangerous accidents. He will also therein perceive the propriety of giving opening physic after every

BLEEDING, but never too strong, especially in cases of catarrhal inflammation.

SADDLE-GALLS.—When swellings happen on any part of the back or withers, from bruises of the saddle, the *discutient lotion* is of more efficacy than any other I am acquainted with; for it will, in a few days, either dissipate such swelling entirely, or bring it to matter; and, what is worthy of notice, when matter is ultimately produced, the swelling itself is then of much less magnitude than it would be by any other application of ours, which might produce matter. The lotion may be used twice a day, rubbing some of it upon the swelling, and wetting some lint or tow therewith, to be bound on the part.

But if, notwithstanding our endeavours, matter be formed in this case, discontinue the application of the discutient, and as soon as you perceive it to fluctuate under the finger, let it out with a knife, lancet, or bistoury. Some lint dipped in the same lotion, and applied to the part once or twice a day, will cure the same, without using any digestive or other means. It will also cure a rawness on the back, or other part, provided the fungous flesh which generally attends bad cases be not grown too high. And when this has happened, let it be reduced by the means prescribed at page 74, ere you further attempt to heal the wound.

*Encysted tumours* will also happen from bruises by the saddle on various parts of the back. These are to be cured like other encysted tumours, by

taking out the bag and its contents. But should it so happen that, in taking out an encysted tumour, the sac, or bag, should be wounded, and its contents let out, which may happen to any operator, however circumspect, care should be taken to destroy the bag, as much as can be effected, with the knife—which is to be dressed with the digestive plaster and poultice; and when the wound appears red and florid, dress it according to the general method before directed, page 74.

*Canker on the tongue.*—When an obstinate ulceration in the mouth happens to the tongue of the horse, take of oil of turpentine, olive oil, and oil of vitriol equal quantities; mix, and touch the sore part with a rag tied on a stick, and dipt therein: repeat at proper intervals, and the cure is certain.

*Operations* for various other ills also occur under their proper heads—as, for concussion, hoof-bound, spavin, wounded artery, fistula, tumour, lacerated wounds, relaxed sinew—all which may be found by turning to the word "Operations," in INDEX.

# PART III.

## DISEASES OF THE CONSTITUTION.

## CHAP. I.

*Fever; Distemper, Staggers, Tumours.*

NOT only are the various kinds of lameness greatly misunderstood, as I have shewn, but I have been long of opinion that many diseases of the whole constitution are in the same sort of predicament. This I am enabled to state freely, from the long experience I have had in such matters; and I believe I shall be able to shew, that all *the writers* hitherto who have written learnedly on these subjects, have been as much mistaken in the nature and cure of some of these as the commonest farriers are. The which authors have also made many useless distinctions of diseases, that tend only to perplex the reader, by multiplying the number of *terms* for the same species of attack; some of which do not apply at all, and others not in such a manner as they set forth and maintain.

[THE DISTEMPER.—Whenever great mortality prevails among cattle of any description, the origin whereof is supposed to be the same, it receives the name of *distemper*, generally; it then occa-

sions great dismay among proprietors, and much perplexity in the minds of practitioners. A state of things that need not exist to such a degree as we often witness;* if each separate case be taken as its own, unconnected with the *prevalence* of the disorder, and the treatment varied according to the state of the individual attacked. An eye should also be had to the *remote cause* of this prevalence; *namely*, the kind of season in which the preceding harvest was got in—as to *hay* or *oats*, to which distemper has been attributed by most writers and thinkers on the subject; or it may be owing to the existing state of the weather at the time, or to both those causes combined. From the effects of the first we may escape, in some degree, by adopting more freely the use of other articles of food than that which has been ill got in; and by counteracting the effects of a bad article, if we cannot wholly avoid using it. When the water, that source of so many ills, whilst impregnated with offensive particles, or extreme coldness, may be suspected as the cause, let the means of correction be employed.† The articles termed absorbent (not

* In autumn 1824 and 1828, *the distemper* prevailed much, and carried off numbers of valuable horses: we had it slightly in spring 1823. In *France* it carried off many horses by attacking the brain; spring 1825.

† Some long and instructive conversation was held in "*The Grooms' Oracle, by Mr. Hinds,*" as to the nature of *water*, its several kinds, the means of detecting the presence of harmful substances, and of removing the same. See it.

medicines exactly) should be mixed in the water, as *chalk, magnesia, prepared oyster-shells, charcoal*, neutral salts, &c. and the three first-mentioned may be given in *chaff* and *oats*, or among the *hay*. More frequently, however, the distemper may fairly be attributed to the existing season, at the time it prevails. Hot and sunny days, succeeded by cold and humid nights, as often happens in a protracted Autumn, after a *wet summer*, debilitates many horses at a time, nay, those of a whole country district, at times. Defend the cattle from its effects by housing them nightly, by comfortable stabling; and, if they be of the tender description of horse, by sufficient clothing.]—Now, hear *Osmer* himself—

One year, in the days of my youth, the distemper amongst the horses was more universal than at any other time. Various were the symptoms, and very different the degrees of illness amongst different horses. Some had a discharge of matter from the eyes, nose, and mouth, others had none; but in all there were great tokens of inflammation, attended with fever, and a violent cough.

I had at that time in *London* a favourite horse, that was seized, amongst a number of others at a livery stable, with this distemper. He had *no discharge* of any kind, but had a dry cough, and a violent fever; was very dejected, would touch nothing, and was more likely, as I thought, to die, than to live. Of course I was very anxious about the welfare of my horse, and having never seen

any thing like this kind of illness before, I consulted such people as I thought were most likely to understand its nature; but I received no satisfactory solution of my difficulties, every one being at a loss in what manner to act. But I soon found that most of those horses which had a plentiful discharge of matter from the nose, &c. recovered; and where such discharge did not happen, nor a *critical abscess* fall on some part, such cases proved fatal. My horse continued in the same state two or three days; for I was over-persuaded not to meddle with him, but to wait in expectation of what nature might do, by promoting some discharge, (*i. e.* critical purgation,) which yet did not happen. In this dilemma I visited several horses just dead of this distemper, which had no discharge from the nose, &c. in hopes of discovering the *cause* of their death, and so finding a remedy. On many of these I made several incisions in the skin, on various parts of the body; and wherever an incision was made, I found in all of them a quantity of *extravasated serum*, lodged between the skin and the membranes. [That is, in the *reta mucosum*.

I was no longer in doubt what was to be done in this case, but immediately ordered him to be bled; and several rowels were put into the horse, to the number of six or eight, which the bystanders said would soon mortify, and in their opinion the poor animal was condemned to die. But, behold, in about thirty hours he held up his head, began to look cheerful, and to eat his meat; and, in

another day, became, apparently, as well as ever he was in his life. Notwithstanding, after all this discharge, when the rowels were taken out, and he had been twice purged, an *œdematous swelling* soon after fell into one leg and thigh; which, I apprehended, might arise from the vitiated state of the blood and juices, or from too brisk an operation of *the physic* in such a depraved habit of body.

At this circumstance I wondered much, and concluded, according to the best of my judgement, that there is no knowledge falls to any man's share, in any science, physical or other, but what is acquired by experience and observation. Therefore, upon reflexion on the success of these rowels on my own horse, I began to think, that the use of them, even on horses that had *the discharge* at the nose, might be very conducive to the cure; because nature, as I thought, plainly indicated the way, in endeavouring to throw off the disease by such discharge; for, by nature alone, as I have been told, the doctor should always be guided. Soon after, on trying the effects of rowels upon horses that *had the discharge* at the nose, I found my expectations fully answered; for they got over *the distemper* much sooner than those which had no such assistance.

FEVER.—From the good thus discovered of promoting secretions of one kind, I considered it might be still better, if other secretions could be promoted, also, at the same time, which would help to cool the inflamed blood, as well as to unload

the vessels, and consequently to abate the fever. For this purpose I employ *cooling salts*, as a pro- per medicine, given frequently, in every case. In other respects, when the horse is seized with the *distemper*, the treatment should vary according to the different symptoms that attend him. For in- stance, when the patient has a violent fever, with a dry cough, and there be no concomitant discharge or running at the nose, he should be bled largely [or several times?] On the contrary, if a *discharge at the nose* appears, bleeding will be found to do harm, being contrary to the efforts of nature in making such discharge; but in both these circum- stances, he should take cooling salts every six hours, three or four rowels should be put in various parts, where the skin is loose, and the excremen

* Epsom salts, or sulphate of soda, has gone into disuse lat- terly in the veterinary practice, chiefly on account of the ex- tremely large doses that are rendered necessary to procure pur- gation, viz. 10 or 12 ounces. It is also a cold and comfortless dose, for horses having any breeding in them, with tender insides, to say nothing of *the quantity* of the drench, or its nauceousness to the horse-palate. *Aloes* is ever a more eligible purge; and if the salts is found desirable, on account of its operating on the kidneys, no less so is *aloes*, when com- bined with much soap, the potass whereof operates upon the same viscus. But should the administering of *the saline mixture* still find advocates—

First, take of the blue pill, *in mass*, 1½ drachms, (15 gr. *co sub.*) and give at *making up;* next morning, before exercise give—Epsom or Glauber's salts ..... 4 to 6 oz.

Water ..... 2 pints.

mix intimately, but do not go out to *strong work* until the physic be *settled*.—EDIT.

should be often *back-raked* from him; if he be costive, cooling and laxative clysters should be thrown up, as thin oatmeal-gruel, with a solution of table-salt in it—four ounces to the quart.

*Rowels.*—Some of the writers on the subject of horses have given mighty precautions against the use of *rowels* in feverish disorders, and talk of the danger of mortifications attending them, when in reality there needs no such fear. But allowing it to happen by chance, it could not be deemed a sufficient reason against the universality of the practice, any more than it would be against the use of *blisters* on the human body, because some men in a fever by chance have died with a mortification of the blistered part. But if any such symptom as *gangrene* should appear, on this or any other occasion, warm fomentations, with some spirits of wine added at the time of using it, and a poultice made with oatmeal, cummin-seed, and the grounds of strong stale beer, to be kept on the part, are the proper remedies.

*Mares and foals.*—Since the year before alluded to, this disease has visited by turns each stud and stable, has fallen on horses of all ages, at various seasons of the year, and in *different shapes.* Wherever it comes I believe none escape the contagion; and when it falls on the sucking foals, they are generally stunted thereby and spoiled, unless some such precautions are taken as I shall shew presently.

Sometime since I happened to be at the house

of an acquaintance, who had a large stud of mares and colts, of various ages, ill with this distemper. As usual, they were attacked in various forms; some had a discharge from the eyes, nose, and mouth; some mares had the *critical swelling* on the udder, some on the shoulder, others on the side of the jaws, under the jaw, and on other parts.

As they fell ill they were taken to house; and I staid at this place several weeks, to try what course of treatment might be of most service to the animals; and to make such observations thereon, as might contribute to regulate my future practice. Accordingly, calling to aid my former experience, they were bled, or rowelled according to their different ages and symptoms, and *saltpetre* was given them, by which means the mares all became soon well, but not so the sucking foals. When *critical swelling* appeared, I made a large incision on the part, and let out large quantities of matter.

The surgeons generally esteem critical abscess in such cases to be a certain cure; and though I am very sure that I did not open one swelling, till it was fit for the operation, [?] and which contained at the time laudable matter, yet so much is the blood sometimes vitiated with this disorder, that after the wound was well, many of them had *other critical swellings* fall on other parts, again and again, which when ripe were all opened, and by which means, at length, they also became well. [But *we*, of to-day, imagine, that the first swellings were not sufficiently ripe, and required poulticing.

By way of experiment, others (as soon as ever the swelling appeared on any part) were bled, had several setons put in the skin, some on the depending part of the swelling, and the saltpetre was given; thinking by these evacuations to divert the febrile matter, and effect a cure. But, after a trial of many days, I found this method of no use, the swelling all this time neither advancing or receding. Whereupon the setons were taken out, the saltpetre left off, and in a few days the swelling came to good matter, by the discharge of which the animals got well in due course of time.

But, for the *sucking foals* no remedy availed, the disease baffling all attempts of art and nature to effect a complete cure. For, if we bled them, a swelling, perhaps, came on the part, and would there remain indurated several months, and was neither to be dissipated, nor brought to matter: the same kind of indurations [i. e. indolent tumours] would also fall on other parts. Again, if matter was formed, and let out, fresh swellings succeeded each other, or some other symptoms of the disease remained for several months, even until they were weaned—the cause of which soon became very evident.

As to the mare, whilst giving suck, she is never, at least so far as I could perceive, affected with this disease; which, in all probability, proceeds from the constant secretion of milk, whereby her vessels are still kept emptied, and she herself thus freed from any symptoms of fever; and yet her blood may be much vitiated and corrupted.

For I have seen several foals at the mares' foot, whose blood has been so poor, as to occasion their legs to swell, even when they have been running about in the field; which same foals, if continued sucking much longer, must inevitably have died:—but when taken from the mare and weaned, they have soon recovered, by the very same means as before were found ineffectual. From which instances I am ready to conclude,—first, that this long-continued illness of the foal is entirely owing to the depraved state of the mare's milk; and *secondly*, if we could be lucky enough to discover *the cause*, it is twenty to one but we find a *remedy*.

In order to this, it will be necessary to think about managing so as to alter materially the blood and juices of the mare. In order to this design, she should be bled two or three times, and take some cooling salts every day; and the same given to the foal once a day, or oftener (if occasion be), with the use of setons, will be the means of curing him also. The milk of the mare should be drawn from her, although it is proposed to wean the foal; in either case, the foal is to be supported upon cows' milk, mixed with wheat flour, till his health is reinstated; by which time the habit of body in the mare will be amended also.*

* If the flour be prepared by previous boiling, as directed under "White Water, No. 6," in "The Grooms' Oracle," it is rendered thereby more digestible. The *Arabs* suckle their colt-foals on camels' milk, though they may ail nothing: the fillies are allowed to suck their mothers.

When a *critical swelling* appears on any part, all means used to divert it are wrong and ineffectual, as I found in other cases. (See page 92.) But a *poultice* of bread and milk should be applied to the part, to bring forward the *matter*, which, when ripe, and not before, is to be let out by an incision on the most depending part; and to prevent any future swellings on the same or other parts, the discharge of matter should be maintained for a time by an artificial drain: then give, daily, some cooling salts to correct the vitiated blood; but not until the issue gives out of a paler colour and less in quantity.

*Issues.*—To this end I have followed a method somewhat different from *rowels* or *setons*, though strictly analogous thereto, which I think much more eligible than either of them;—1. Because it sooner brings on a discharge, and that in more abundance;—2. It is attended with less inflammation;—and, 3. It may be continued as long as is deemed needful. Thus, make a number of incisions in the skin, on any part where it is loose; dilate or separate the same with the finger, all round as far it will reach, and moderately fill such part *every day* with fresh lint or tow, dipped in the digestive directed for wounds (page 74), first taking out the former dressing.

By those methods all the symptoms attending this alarming disease in horses of every age will be removed, and its usually destructive consequences prevented.

But I shall be induced shortly to enter much further into the particular distinctions of those constitutional attacks of a feverish nature, which receive the common name of THE DISTEMPER; to describe the several species by their various symptoms, and to apply the remedies appropriate to each class; for great danger has been found to ensue the vulgar practice of lumping the whole under this one *name*, and treating the several species in the same manner, without regard to the difference of the symptoms, nor to the part of the animal that is affected; an error they fall into by reason of many horses, or other cattle, being attacked at the same time, which is owing entirely to the badness of the season, or that which has preceded it, and produced bad provender.

STRANGLES.—Amongst the *critical swellings*, just spoken of, I think *the strangles* may justly be reckoned; the situation of which disorder is under the jaw, threatening strangulation; whence, I suppose, it may derive its name. But this disorder of youth, is not to be mistaken for *the distemper*, nor this for the former.

In all these cases of tumour, horses should be kept warm, and by no means go out of the stable whilst matter is forming;—this also [i. e. *strangles*] is to be treated after the general method, just laid down for other abscesses, or critical swellings. And here, too, the use of incisions in the skin, as drains, or *issues*, and cooling salts, will be very proper, *after the swelling*, or tumour, has been opened or

burst, and the wound bids fair to become well;—for this, also, is the *crisis of a fever*, though it happens to *all colts sooner or later*, and falls on the same part in all cases.

At this place, I cannot help relating an instance of the most gross ignorance, which I once saw committed by a farrier of great fame. A horse had been ill with *the distemper*, and nature had been kind enough to form a critical swelling on the back, in which there was matter ripe and fit to let out. When it assumed this favourable appearance, the *doctor came*, but, instead of letting it out, he made use of a *discutient fomentation*, by means of which, if the matter could have been repelled, and again taken into the circulation, the animal must have died a most wretched death.

And here is the proper time to show, that the learned authors, who have wrote on this subject, have been much mistaken with respect to the nature of diseases.

STAGGERS.—*For example*, the mad-staggers has been treated by all the old writers as an apoplectic or nervous disorder; which alleged *nervous disorder* is a something they know not what; but is clearly a kind of subterfuge for what they do not know.* But *the mad-staggers* is in reality *a fever*, of which I have cured many horses by the same

* *Apoplexy* is a nervous affection of the severest kind, in which the patients fall, as if knocked down, at the very first attack; but in no case of *staggers* does this happen in the first instance.—EDIT.

means as those directed for *the fever*, called *distemper*. In like manner all the different diseases called by the names of *convulsions*, *epilepsy*, *vertigo*, and *apoplexy*, are, nineteen times in twenty, no other than *secondary effects*, or symptoms of fever. Just so it is amongst men, some of whom have with a fever the concomitant symptoms of *coma*, or sleepiness, *delirium*, or madness, spasms, convulsions, &c. yet these affections in the horse are always treated as original diseases by our farriers; who, to give the strongest proofs they can of their ignorance in these matters, have lately found out a new way, by which they expect to cure these disorders, that is, by giving the horse a drench through *the nose* instead of the mouth!—If horses were to doctor men, could they act with less rationality?

But, so far from depending on the nervous system, some of those symptoms that acquire the names of *vertigo*, *apoplexy*, and *epilepsy*, may happen to the horse simply from *repletion*,* when there is no apparent fever, and from various other causes; for instance, the worms in horses, as well as in men, will occasionally produce the appearance of all other diseases. Now those concomitant symptoms of delirium, coma, convulsions, &c. do not require our particular attention in horses as in men; but when the fever is attended with any of those

* Repletion, or fulness of the system, is one great cause of the *strangles*, when young horses are allowed to devour too much food.

symptoms, large and repeated bleeding is our chief dependence, more especially if the jaws are shut so fast as to render it impossible to give the horse any internal medicine. Here again, incisions of the skin, before recommended, (No. 1 or 2,) as drains, and clysters should be used, and nitre given internally, as soon as the horse's closed mouth relaxes, taking care to join some laxative salts with it, to keep the patient's body open, or rather loose.

*Fever Powder, No. 1.*

Nitre, powdered ..... 1 oz.
Camphor ..... 2 drachms;
mix, and give in mucilage of gum arabic; or the whole in oatmeal-gruel, twice a day, and give until the water produced is abundant.

*Fever Ball, No. 2.*

Nitre, powdered ..... 6 drachms,
Camphor ..... 1 drachm,
Tartrate of antimony ..... 1 drachm,
Liquorice powder ..... 2 drachms;
mix, for one dose, with mucilage of gum arabic and meal, enough to form the ball; give a horn of gruel upon the ball.

*Nitre* should always be accompanied by the gum, lest it occasions pain in the horse's stomach. When much water is passed, cease the nitre altogether.

*A case of staggers* occurred in my practice which convinced me, more than ever, of the value of salts in the cure of horses' diseases, and this particular

ailment eminently so. It so happened, that a horse *mad with the staggers* [caused by walking round and round, generally] broke out of a stable belonging to a gunpowder-mill, and got to a large cistern of water, in which so much *saltpetre** was dissolved, that it was barely in a state of fluidity. Hereof he drank, or rather swallowed, several gallons; this soon promoted a very copious secretion by the urinary passages, after which, he became immediately well, without any other assistance. This case is mentioned here to shew the good effects of *nitre* in fevers, and that some horses are able to take any quantity of this salt; and yet others, from a difference of constitution, *more particularly when they eat grass,* shall not be able to take the smallest quantity, without being affected with gripes or cholic; therefore, it is always best to begin with a small quantity, not less than an ounce, which should be mixed, and *made into a ball,* with some mucilage of gum arabic and meal; and if the horse be not affected with cholicky pains, the dose may, by degrees, be increased to a greater quantity, according to the different age and symptoms. But when gripes ensue from the use of this salt given in small quantities, you will find that *tartar solubile, sal regeneratum,* or any such kind of neutral salt, will answer your purpose, given twice or thrice a day in such quantities as you would use nitre.

* That is to say, *nitre,* or *nitrated potass.*

*Melting the grease.*—When the horse is thrown into a fever by hard riding, (which the farriers, and most writers also, call melting the grease,) he will be cured by the same methods. For this melting of the grease is nothing more or less than the serous particles of the blood having been extravasated by too much heat and labour; which *serum* may be found betwixt the skin and the membranes, (as noticed at page 88,) when the horse dies of this or of some such inflammatory fever.

By the same treatment, the pampered stallion is saved, who has revelled in love and plenty all the summer; when, indeed, these are happily joined together. But when the heat of Autumn comes, and the seminal discharges are over, he is commonly still fed as high as ever by his mistaken owner; from which full habit of body, fevers often arise in various shapes, mostly attended with costiveness, and death ensues. Then, again, in a *breeding* point of view, what can be expected from such sires who live in a constant series of indolence and luxury, but a dull, diseased, phlegmatic produce? Wherefore, when the covering season is over, *the stallion* should have strong exercise, if not labour, and less *hard* food; and when the Spring comes on again, he may be allowed to live on more luxurious articles than chaff and hay and grass, whereby he will acquire fresh spirits and new vigour to perform the feats of love with commensurate effect.

By the means just described, every kind of

*fever* in horses will be most frequently cured, if taken in hand before the juices (or *secretions*) are fallen into a state of putrefaction, remembering still that horses are mortal, as well as men; but this treatment is founded on reason, and the observation of Nature's laws, and has been confirmed *by experience*, which is all that physical knowledge ever yet pretended to, or ought to assume.

*Cooling salts.*—The use of these, with proper *bleeding* and *clysters*, as before directed, (p. 99,) will generally be sufficient to remove most common fevers. But should the case appear urgent and dangerous, then, by way of security, incisions of the skin, as *drains*, should be used also (p. 88). For want of such due *secretions* and *evacuations*, the horse, though he may happen to recover of his *fever*, is liable to, and often is ruined by disorders consequent upon, or left behind by the effects of the *fever*, and the rough means employed for its removal. These are the farcy, broken windedness, tubercles on the lungs, consumption, glanders, and œdematous local swellings, that are never removed, *i. e.* indurated by the heat of the body.

To the mode of treatment here recommended, *the learned* may, perhaps, object, that so many different evacuations and secretions, promoted by *bleeding*, *nitre*, and the other *drains*, employed all together, impede the operation of each other. With all my heart, so be the theory; I don't know but they may in practice: yet do these, when united, help to abate the inflammation, attenuate the

fluids, and discharge the same, better than either of them used alone. But my design in this exposure is not to trouble the reader with mere speculative matters, but to tell him plain facts, that he can readily understand; and to shew him some rules whereby he may haply save forty-nine horses out of fifty *in every kind of fever*, without applying to any farrier, who, most times, turns out a greater enemy to the horse, in these disorders, than the disease itself, by the rude, violent treatment with which he effects a cure (if, indeed, he ever succeeds); whereby some other disorder falls on the recovering animal, as recounted in the preceding pages.

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## CHAPTER II.

### *Observations on Malignant Fever and Epidemy; Symptoms and Cure.*

DISTEMPER.—From the close observations I have possessed the means of making on the various *diseases* of horses for many years, and taking into consideration the nature, sameness, and simplicity of their *food*, I was long inclined to think that horses were not subject to *malignant disorders* as men are; but the epidemical disease that has occasionally raged amongst them for several years,

and which still shews itself at short intervals,* has taught me the contrary. For I notice, in this disease, which, I own, is *new to me,* since the publication of my *second edition,* that the horses so seized are attacked with a variety of symptoms, that require each a very different treatment from every other. Of course, particular regard should be had to the symptoms attending every fresh case, which must form the proper criterion or direction how the cure is to be undertaken. This indispensable mode of discrimination is what I now undertake to teach the attentive reader.

*The symptoms.*—The commencement of the disease is marked by great debility of the limbs, so much so, in some cases, that the weakened patients reel and stagger about when led along, and that almost as soon as they are taken ill. Loss of appetite comes on, generally, with a short dry cough; the eyes become suddenly dim, and glazed, and lifeless: they are also particularly free from all inclination to drink. Besides those general symptoms of the distemper, some of which prevail more

* In the spring of 1828, the *catarrhal* epidemic prevailed generally, with symptoms nearly resembling the third and fourth classes of *Osmer,* but in London the attacks partook of the whole of those described in the text. The only report published was that of a practitioner in Leicestershire, who bled and rowelled—and he lost his patients; he changed his plan according to *Osmer,* and was successful. The same success attended the town cases, when treated as our Author has directed.—EDIT.

than the others, that are otherwise indicative of the disease having fixed on particular parts of the animal, I shall endeavour to distinguish them as near as I can for the reader's further guidance when this distemper again makes its appearance among us.

*First.*—Besides the symptoms already described, some horses are seized with *coldness of the external parts*, are chiefly affected with a weakness behind, but have no fever or other tokens of inflammation: there seems to be a tendency towards a general stagnation of *the fluids*.

*Second.*—In this class are great tokens of inflammation, the fever is high, and the external parts are hot and burning: the sight is affected, and the head generally so.

*Third.*—The disease falls mostly on the throat in the third species of attack, with manifest tokens of *great soreness* there. These seldom have any feverish heat, are not so much affected in their limbs or sight as those of the *first* and *second* classes; their appetite and inclination to eat, also, seems better than in those two classes. Before this *soreness* goes off, however, the patients become miserably reduced, though this falling away ought not to be imputed solely to their fasting; because all horses in this disease, that are attacked severely, are thereby reduced, in a very few days, almost to the degree and leanness of a *dog horse*.

*Fourth class*, or the mild attack.—These are seized at first with *a cough* only, and shew little or

no symptoms of illness, nor of any unusual heat or cold; in general, a discharge of a *serous fluid* from the nostrils comes on, as in the inflammatory fever. As the patients of this class are the least affected, so they recover soonest of any, and that, too, with little or no assistance.

*Fifth.*—Along with *the cough* of the last description, some are troubled with a phlegmon, or boil, on some part of the head or body. In such cases, if the heat of the patient's body and strength be sufficient, the *tumour* comes on to ripeness, when its bursting, or being let out with a lancet, is *critically* a cure of the disorder. But, in some poor creatures, whose system may be in a low state, the vital heat is so little, that their lives are manifestly endangered before the tumour can be brought to a head sufficient to open by the usual assistance of poultices and cherishing diet.

*Vital heat,* however, upon which depends the spontaneous termination of a large class of distempered horses, deserves a moment's consideration here; inasmuch as the different progress of the *critical boil,* or tumour, in different horses, is owing to *difference of their fluids,* and the more brisk or languid circulation thereof, as they happen to be more or less viscid. If this be not the true cause, I beg to ask from whence should arise the two extreme sensations of cold and heat in different horses affected with the same epidemical disease in the same stable, and, of course, under the same management? It may, also, be here instructively

remarked, that those horses are most affected with cold and shivering (the presage of death) in whose blood is found the least proportion of *serum*.

*Treatment.* Having described the different symptoms that denote this disease according to the previous condition of the individuals attacked, come we now to the proper method of treating each class, respectively.

For those of the *first class*, bleeding is found particularly to do harm; and, if it be drawn in large quantity, the horse soon drops, a violent palpitation of the heart succeeds, and death, most probably, follows soon. The blood of sick horses belonging to this class, when taken away, and exposed to the air for twenty-four hours, is found to contain not one drop of serum in it, but remains a coagulated sizey mass. Neither do horses of *this class* of distemper, when costive, derive any advantage from *clysters* (as in every other disorder), but rather this eligible method of softening the *fæces*, has the contrary effect. *Rowels*, also, seem to do harm to horses under the circumstances before described. Give the following—

*Distemper Ball.*

Take Crude sal ammoniac .... 1 ounce.
Nitre ..... 1 ounce.
Hard soap ..... 4 drachms.
Camphor..... 2 drachms.
Linseed oil, and mucilage of gum arabic, enough to form two balls.

Let the camphor be rubbed down in the oil, and mix. Give one ball in the morning, the other at night, for three or four days; but, if the medicine have little or no effect on the urinary secretions, increase the quantity of *nitre* and *sal ammoniac*, according to the horse's bulk, strength, and habit of body. His proper food, at the beginning, is hay and scalded bran, if he will eat it; his drink should be moderately warm; and give whatever he seems to like best, and as much as he chooses. By the continuance of this medicine for a few days, as the stagnated fluids become thinner, the bodily strength returns, and soon after, as the *urinary secretions* appear to be augmented, he begins to drink freely; whereupon he generally becomes well of a sudden, recovers from the affection in his limbs and his appetite, at once. His *cough* alone remains a little while, until he recovers his condition. When these favourable symptoms appear, and the horse's appetite is good, discontinue *the balls*, lest the blood become too much attenuated, and *dropsy* ensues. Indeed, give no medicine whatever, now; for nature will, in general, best do her own work, without the aid of art. Mashes of bran and oats, scalded together, and oatmeal gruel, or, if the patient be an old one, a little scalded malt: broken beans will coax him to eat and blow himself out. During his whole illness he should not be taken out of the stable on any account whatever, nor afterwards, until he has *completely recovered* his flesh, and has taken a

purging ball, which, most probably, he will not be able to bear for a considerable time. As in all *inflammatory fever*, keeping the patient *cool* is found highly beneficial, so, in this disease, keeping him moderately warm with good rubbing down, if he is inclined to be *cold* and stiff in his movements, is very necessary and proper.

*Second class* of distemper. For these, moderate *bleeding* is found very beneficial, more especially at the commencement of the disease. Evacuations by clysters will here be found serviceable, and the medicine before directed should be given in like manner. If the heat and fever continue twelve hours, and the vessels on the membranes about the eye appear red, inflamed, and distended, a *second bleeding*, in moderate quantity, is plainly necessary, and will be generally found sufficient to lower that and other symptoms. But as to quantity, or repetition of blood-letting, *the operator* will receive the best monition by the abatement of those inflammatory symptoms, and lowering of *the pulse;* always keeping in mind that the horse in this disease can bear the loss of only a small portion of blood at any one time: respect being had also to his size and strength.

When the blood is drawn from horses with those symptoms, and has stood a little time, it will be found very sizey, of a buff colour, and has but little *serum* in it. In this case, therefore, *rowels* will be found exceedingly improper; because the lymph and thinner fluids are hereby discharged, of

which there appears to be already a deficiency, or rather some degree of stagnation in the circulation thereof.

*Third class* of the disorder, that in which the throat is affected with *soreness*, it would be very improper to employ either bleeding, clysters, or rowels: unless that symptom be accompanied by manifest tokens of fever and inflammation. In either case, the medicine before directed (page 107) is proper. These patients will eat the oatmeal gruel, with bread in it, and the other feeding mashes as they grow better.

*Fourth class.* For those distempered horses which have *a discharge* at the nostrils, bleeding is highly prejudicial; because this discharge is an effort of nature to relieve itself of something that is offensive, and may be looked upon as a kind of crisis to get rid of the disease.

Clysters are seldom required in these cases; because the horse has, under these circumstances, generally an appetite to take a sufficient quantity of scalded bran, to keep his body open. But *rowels*, here, with the medicine before directed, help to assist nature in unloading the surcharged vessels, and getting rid of the *extravasated fluids*; for, although many horses do well under those circumstances, by the efforts of nature alone, yet I have seen many instances wherein, for want of artificial helps, the fluids discharged at the nostrils have been of so sharp and acrid a kind, as to corrode the soft membrane *(schneiderian)* which

lines the internal cavity of the nose. Hereby, also, ulcers have been formed; the which, lying out of the reach of topical applications, often turn to the real glanders.

For the *fifth class* of distemper, a poultice of bread and milk, with hog's lard in it, should be applied, twice a-day, to the boil or tumour, until it points and fluctuates under the finger-touch, when it may be opened. The practice might be deemed quite reasonable, when the pulse is low, the circulation languid, and the external parts cold, to give the patient some warming medicines,* (formerly termed alexipharmics,) to enable nature to promote the work of suppuration; but this is, nevertheless, a mistaken notion: such medicines being found, in several cases, of no service whatever; therefore, when I have observed the tumour to stand still for several days together, and not advancing, in the least, towards maturation, whereby the horse is submitted to much danger, I have discontinued the warm medicine and given the balls before directed (page 107) with a greater quantity of *the camphor*, with the intention of thinning the fluids and thus carry off the disease by the other common secretory ducts. This treatment has often succeeded according to my wishes. But what is very remarkable, and may occasion surprise, as being contrary to speculative reasoning [theory]; the phlegmon tumour, or boil, which before stood still (as I ob-

* Sweating powders; fever powders; prepared emetic tartar, &c.

served), and would not advance at all, has, upon the urinary secretion increasing in quantity, come to suppuration. Although this fact may appear somewhat strange to the learned, yet it ought to be remembered, that bleeding has occasionally brought the phlegmon in men to suppuration, which had previously made no advances thereunto.

To *conclude* this topic about the *distemper* or *epidemy*, I may aptly add, that I have by thus adapting my treatment to the different symptoms as they arose, saved many horses, having lost a few only out of a great number of patients. Notwithstanding this fact, I am free to allow, that when this disease first made its appearance I certainly did endanger the lives of many a horse—a piece of candour this that we may never expect to hear from the mouths of farriers in general, nor, perhaps, of veterinarians from the half-bred schools, where they dissect none but asses! and sell their dead horses to the knackers without opening the bodies.

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## CHAP. III.

### *Diseases arising from imperfect Secretions—the Bile, the Humours, &c.*

[THE foregoing lucid description of the *symptoms* that attended the epidemic distemper, under our author's own eye, will not be without its uses,

whenever it so happens that such a plague again recurs, as sure it will when the same *causes* prevail. For, what can such a contagion be designated but *a plague*, which commits such ravages, and was so ill encountered by the remedies prescribed, that what was very proper in one series of cases were found destructive of life in another; the coming of a tumour, or *bubo*, (as they termed it,) being considered as the only genuine plague, whereas this appears to be the most favourable symptom, provided it be brought to maturity and discharge. These are the unfortunate "mistakes in practice," that form the odium of the *curative art* in every branch of it, and is only to be overcome by watching the varied manner in which animals of different constitutions receive the infection, or contract the disease originally. But there are other diseases of a febrile nature incident to the horse and other herbivorous animals, which appear with symptoms varying according to the constitution of the individual attacked, to the digestion, and to the *bilious secretion*;—whence all other secretions are liable to vitiation, and *the humours* they secrete, instead of being beneficial, according to the design of nature, become harmful. The secretion performed by the liver is eminently in this predicament.

*The yellows.*—There are two diseases indiscriminately called by the name of the *yellows*, from the leading symptom, which, being different in their nature, seem to require some distinction; and the

more so, because they will require to be treated in a manner somewhat different from each other.

In the *first place*—one is an *inflammatory fever*, attended with such symptoms as appertain, in general, to that which is commonly called *the distemper* in horses, with a discharge of a yellow serous matter from the eyes and nose, &c. and is generally produced by *heat*, and *close stabling*. In this case bleeding is improper, because the efforts of nature are thereby impeded, but the drains, salts, and clysters, as before recommended, should take place, as in other inflammatory fevers.

The *second* description of *the yellows* is that wherein the finer vessels, and the cuticle of the eye, are tinged with a yellow hue, and not attended with the discharge from the nose, &c. which is characteristic of the first kind, and is the effect of *obstructed bile*. In such cases bleeding (though always used) must be very improper, when there are no tokens of inflammation; neither can *rowels* in this case do any good; but *nitre* and *antimony*, with Castile soap, and a decoction drawn from one ounce of *madder*, given twice a day, are the proper remedies. In an attack of this kind, by the daily use of *salt petre* alone, continued as an alterative after the distemper was reduced, I have rode my horse a fox-hunting in half the time that I could have done, if he had gone through a *course of physic*, and he has performed as well in every respect.

FEVER, *erroneous practices.*—If such are the beneficial effects of *cooling medicines* in fevers, what is to be expected from a contrary treatment, or the inconsistent medley of *cordials*, nostrums, and specifics, given by grooms and farriers, without knowing the least tittle of *anatomy*, or the animal economy; consequently, without so much as knowing wherein the disorder consists, nor even the nature of the medicine they use as a remedy. But, however, not to detract from the merit of these men, it must be granted, that what they want in knowledge is amply supplied by the goodness of their receipts. And it would be a very hard case indeed, if in a receipt, consisting of a great number and variety of articles, one of them should not happen (as they say) to *lay hold of the disease.* However, a more fallacious mode of reasoning was never set forth on any other occasion than this one, which affects the lives of valuable animals; and I lament to say, the error is not yet wholly extinguished among us.

Will their knowledge of the proper treatment of *tumours, wounds,* and various *lameness,* (let me ask,) without being acquainted with the nature and uses of the component parts, be more extensive than it is in the proper treatment of constitutional diseases? But time, and rest, and wonder-working nature, and the simplicity of the horse's food, oftentimes effect a cure in spite of all their absurd applications, which they, from vanity and ignorance, conclude to be the effect of their own *skill,* in ap-

plying hot burning mixtures to the cure of diseases already caused by the presence of too much heat.

A *case* occurs to me, quite in point, as proving to those persons what evils may be produced by *excessive heat;* as it also gives the more learned reason to pause and consider, what future good may in such cases be derived from local acquired heat.

A man was inoculated for the *small pox*, but, in the interval of time, between that and the eruption coming forth, he was seized with *the gout* in both feet. He was ordered to apply flannels to the same, and when the *pock* came out, he had none but upon his feet, which were very full.

And here may be justly said (what was said before as regards the lameness of horses) that *nineteen times in twenty* THE DISEASES BEFALLING ALL HORSES, *are occasioned by* TOO MUCH HEAT, *and too confined air* of the stables. Is it not, then, extremely wrong judgement in the jockey, to stop up every avenue, even to the key-hole of the stable door, whereby the pure atmospheric air, composed of *oxygen* and *nitrogen*, is excluded from the faintly-respiring horse? For, hereby the *serous particles* of the blood are discharged; and hence *fevers* appear in *different shapes*, as I have just shewn pretty much at large; and variety of illness is produced from not distinguishing between the effects of great *heat* and simple *warmth*.

*Horned cattle*, in their diseases, resemble the *horse* in many particulars, the which I may not unaptly notice in this place, by way of *comparison*,

as we approach the termination of this topic. According to the best of my observation, for many years, what is called *the distemper* amongst *horned cattle*, is exactly correspondent to the distemper or epidemic amongst the horses, *the symptoms in each animal being similar in all respects.* I therefore conclude that the discharge from the nostrils, &c. of the cow in *these fevers*, about the nature of which, and of this distemper, there has been abundance of fine writing, is nothing else but an extravasation of the serous particles of the blood, the effect of inflammation:—therefore it is I infer, that in accordance with the attempts of nature to relieve itself, our business is to invent all the methods we can to carry off this *extravasated serum;* so, let the *incisions*, as before directed for the horse (page 69), be made in the skin of the cow, will, as it does in horses with the same sort of fever, produce, in twenty-four hours, a nasty *fœtid* purulent matter. By making a number of such drains the parts will be unloaded, and the animal relieved; as they do in every kind of fever amongst horses, and I dare say will too amongst the cows, answer nearly the same end and purpose as a *critical abscess.* But, when no critical abscess happens, or no artificial drains are made use of, the natural ones, not being sufficient to carry off the extravasated serum, the viscera, and more noble parts, are in time affected, the blood and juices devolve, by degrees, into a state of putrefaction and corruption, and the animal dies a most wretched death.

If any man object and say, this distemper of the cows is infectious, and therefore it is of the putrid, and not of the inflammatory kind,—I answer, that it does not appear to be infectious; because some cows amongst a number of infected ones have escaped it; and because these animals are not subject to putrid fevers, as men are, by reason of the difference of their food. But, allowing it to be of the putrid or pestilential kind, and to arise from air, from infection, or both, these artificial drains made in the skin will still be very proper, because they will answer in some measure the same end, as the bubo or critical imposthume befalling the human species in pestilential disorders—if they are properly managed. And here it may be observed, that when *distempered cows* have escaped death, it has been generally owing to some critical abscess, various instances of which I have seen. To the employment of those *artificial drains* should be added the use of *cooling salts*, and laxative clysters, if the blind gut is disposed to fill.

It is necessary to observe, that *bleeding* (or otherwise reducing the system of) the *horse* or the *cow* will be wrong, and must do harm, when a discharge from the nostrils, &c. is begun; because its tendency is to mar the efforts of nature; and so it is when there is any soft tumour or abscess, *i. e.* a *swelling* that is tending to *matter*, which kinds of swelling can be ascertained only by the most careful examination of the body all over, the *situation* being quite uncertain.

From the observations I have made on the diseases of both these animals, and from the sameness and simplicity of their food, I think there is great reason to believe that the same remedies will have the same effect in one species as in the other; and it is much to be regretted that we have had no opportunity hitherto of ascertaining so important a fact, so as to be enabled to act upon it with confidence. To this end, it is to be wished that the legislature would give the farmers leave (whenever this distemper shall again appear) to make trial thereof, and oblige them to deliver in, at some proper place, the symptoms of this disease, and the effect of these proposed remedies.

As the author's sole motive in publishing this treatise is the good of the community, he may be allowed to observe that, if these methods prove successful, particular men will be also benefited, for the College of Physicians will be prevented the trouble of any future meetings to consult on the subject; the good bishops, too, will thus be spared the fatigue of composing pious forms of prayer to deprecate *the evil;* as if the Almighty Being (like an earthly prince) was to be influenced by human entreaties to alter his general laws, whereby all things are governed; not considering that *natural evil* must unavoidably happen to the creatures of this earthly state, from the contingencies of food and climate.

HOVE, or *sprung bullocks*.—There is another disorder incident to bullocks, I may as well notice

here, which the graziers call being *hove* or *sprung*; that is to say, the animal, from overcharging the stomach, is swelled in such a manner as to bring on speedy death, unless soon relieved; all digestion being at a stand. This will be cured by raking the excrement from the strait gut, and the use of *saltpetre*, or any laxative *salt* given plentifully, or by giving *sea-water*; and *bleeding*, in this case, will so far do good as to alleviate the parts affected, *i. e.* the gut and stomach.

STRANGURY.—When a difficulty of passing the *urine* befals a horse or bullock, *bleeding*, taking away the excrements, giving *clysters* and *saltpetre*, with other laxative salts, plentifully given in some *barley-water*, which has *gum arabic* dissolved therein, are the proper means of cure. If these fail of the desired effect, *opium* should be given inwardly, and a *clyster*, in which *camphor* 2 or 3 drachms has been dissolved, may be injected.

*Tumours* are found to have sometimes caused the obstruction in staling we term *strangury*; the which we can only discover by an after-death examination that is too late to do any good. In this case the tumour (encysted) has so formed on the neck of the bladder that no art can relieve, and if the correspondence of symptoms, between any animal *under hand for a cure*, agree with another which has died of this infliction, the comparison will at least teach us to cease our endeavours and knock it on the head. The existence of such tumefied glands within the animal, as well as without, is

Fig. 4.

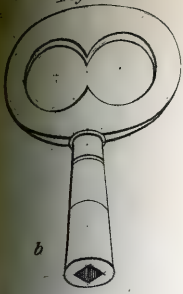


Fig. 3.

Fig. 1.

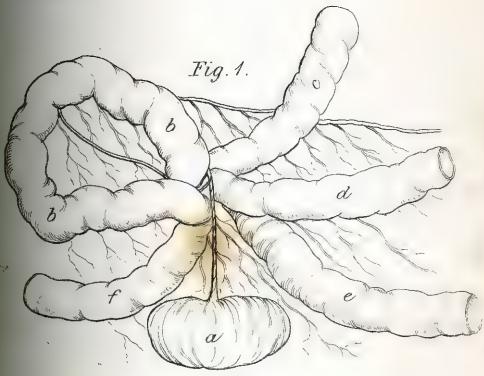
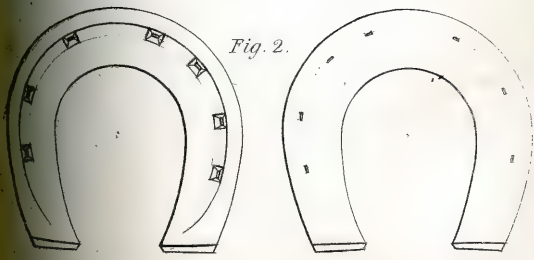



Fig. 2.



justly ascribable to the evil quality of the horse's blood, its superabundance, or its viscidity and consequent incapacity for carrying on its functions aright. Here again the timely use of nitre, or of common house-salt, a run in salt-marshes, or any other method of thinning the blood, is plainly indicated, and should never be relaxed in regard to horses that *make blood* too fast and become pursive. A case, or two, of such an affliction will be found in the next chapter, *viz.* tumefied gland on *the ileum*, and consequent strangulation of the guts *beneath it*, vulgarly termed *strangullion*.

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## CHAP. IV.

*Treats of Disorders arising out of a vitiated State of the Blood, or that are aggravated thereby; of Physicking, the Botts, &c.*

*Coughs and Colds* are usually attended with inflammatory symptoms, as the increased action of the pulse plainly shews; then *bleeding*, repeated if the pulsation be not reduced by the first, with warm moist diet, and the following medicine will remove any recent moderate attack:

Linseed oil, cold-drawn .... 2 ounces,
Saltpetre ..... 1 ounce,
Prepared ammonia ..... 1 drachm, mix,

and give so much daily in decoction of linseed, or of liquorice, or barley-water; but *oatmeal-gruel* is best when the patient is low in condition. The whole quantity need not be given at once or twice, but in small quantity and often; and, above all things, keep the horse within doors, air and motion having the effect of irritating the parts affected, *i.e.* the lungs.

Whenever it so happens that the cold continues long on the animal, or he repeatedly incur this malady in one shape or other, this proves that his blood is in a bad state (or vitiated), and requires cleansing. This may be undertaken by the means I shall state more fully towards the end of this chapter. After the bleeding *a gentle purge*, No. 1, should be administered, but, if the horse be in a costive state, he will require a stronger medicine, divided into *several doses*, as the alterative, No. 2; because, if *strong physic* be given with a view of lowering his system, it may have the effect of transferring an affection of the lungs to the bowels, and the horse goes off quickly of gangrene.

No. 1. *Mild Purgative.*

| | | |
|---|---|---|
| Take | Aloes, powdered..... | 4 drachms, |
| | Hard soap..... | 2 drachms, |
| | Oil of aniseed..... | 12 drops; |

mix with mucilage and meal for one ball, and give as soon as the bleeding is over: give thin oatmeal-gruel before and after the purgative.

No. 2. *The Alterative.*

Barbadoes aloes ..... 7 drachms,
Venice soap ..... 4 drachms,
Oil of caraway ..... 20 drops;

mix, as before, and divide into three balls, to be given on three successive days, unless a proper *motion* is procured by the second. Give bran-mashes, as much as the horse will take.

By oft recurrence of A COLD, or long continuance of a cough, broken wind is superinduced; but let no man lend an ear to the announcements of cures for broken-winded horses, how pompous soever they may appear; because, in this case, certain glands (called the lymphatic), which are placed upon the air-pipe at its entrance into the lungs, are become enlarged, and thereby the diameter of the tube is lessened. Hence the received air cannot so readily make its escape, nor respiration be performed with such facility as before; from which superabundant quantity of contained air the lobes of the lungs are always enlarged, as may be seen on examining the carcases of broken-winded horses, after they are dead.

*Gripes*, or *colic*, are of two kinds:—1°. the spasmodic; 2°. the inflammatory. The *first* proceeds from catching a slight *cold in the bowels* when these may be foul, or from drinking cold water; the *second*, or inflammatory, is brought on from the same two causes, more severely incurred, as well as from *costiveness* and consequent heat terminating in inflammation of the bowels; as does *tumour* also.

The *first kind* of gripes is cured by one ounce of the *philonium romanum*, and by repeating it, if occasion be, with the help of oatmeal-gruel in any quantity; or, *the gruel* with any other cordial than the *philonium*, which is thus compounded:—

Take Purified opium ..... 3 drachms,
Ginger ..... 6 drachms,
Jamaica pepper, powdered 1 ounce,
Caraway seeds, in powder 6 drachms,
Syrup of poppy, strong .. 3 ounces;

mix in the *opium* with the warm syrup, minutely, and add the three powders. Divide into five or six doses. *** This is *the opiate confection* of the shops.

In the *second kind* of gripes, or natural inflammation, copious bleeding is proper; which should be repeated *if necessary*, that is, if the pain and pulse appear to be very violent. The excrement should be kept *raked away* as it falls into the rectum, or strait gut. *Sweet oil* should be given, 1½ pint, inwardly, to relax the intestines; and then cooling laxative *salts*, every four hours, to unload the same; for which purpose, also, any of the *neutral salts* may be employed, as *Glauber's salts, sal catharticum*, with soluble tartar, or *tartarized kali;* and *oil* given by way of *clysters* will also be of use in this case. Here, *saltpetre* is not so proper, because it acts as a diuretic, rather than a laxative.

Now, this last kind of colic, proceeding as it does from costiveness, or from a severe cold in the

bowels, causing inflammation of the bowels, is what the writers and farriers indiscriminately call "the strangullion," or "twisting of the guts," for such they *always suppose* it to be. Yet this never happens originally, though it may be effected by some other misfortune. The plain truth is, that certain particles or pieces of dung, or excrement, in passing through the guts, become hard or *indurated* from an excessive degree of dryness, or heat in the system; whence it comes to pass, that the space of the gut where it rests is stretched and enlarged. Hence follows a narrowness or *stricture* round the adjacent part of the same, so that the excrement cannot pass along. This occasions an inflammation; and the horse, if not soon relieved by cooling and relaxing medicines, dies of a mortification in such part. Another cause may be inflammation of some particular *part* of the intestines, where the excrement may not be so lodged; that is to say, a tumour or tubercle on the mesentery.

[From the time *Osmer* first wrote, to this hour of the improved edition going to press, we have no instance of strangullion (i. e. *strangulation* of the intestines) on record; as, indeed, how should it be, in the absence of *all liberality* in the profession, as to the communication of any extraordinary cases; and of nearly *all means* of making such public, except those which were held out and tardily embraced in the *Annals of Sporting*, during the six first years of its existence! But the French veterinarians had watched the progress of this hideous, and as we

think, incurable disease, with some accuracy; and, in their *Recueil Veterinaire*, a well-marked case is recorded, towards the commencement of the present year, in which the symptoms (tuberculous) were noted with instructive exactness. *Introsusception* is the scientific term applied to *the strangullion* or mistakenly supposed "*twisting* of the guts;" which, in fact, consists in nothing more than *the tubercle*, which has formed on the small gut (ileum), by its weight dragging down a portion of the gut through its subsequent foldings, and thereby causing the strangulation *above and below*, as described by *William Osmer*; his *induration of the fæces* having precisely the same effect as the French case of *tuberculous affection*. The next well-marked case *put on record*, was that of the King's favorite gelding *Adonis*, as reported by Mr. *Goodwin*, in September, 1829, whilst we were yet at press.

[The symptoms attending this attack were those of the *second kind* of colic described above, page 124, and which are in effect the same as those characterised in "Veterinary Surgery," page 253, as inflammatory, and proper to be distinguished from the *first*, or spasmodic-flatulent kind.

Mr. Goodwin "conceived the attack to proceed from spasms," though "the horse often threw himself down, making efforts to lie on his back, looking back at his flanks with a peculiar anxiety;" which symptoms are characteristic of *inflammation* of the intestines, and not of spasmodic colic, espe-

cially if accompanied by *cold ears*. He gave oil of turpentine, with clysters of the same, and back-raked his patient, as *Osmer* directs. On an increase of the pulse he bled; and the animal died, as indeed it could not fail to do, spite of any treatment whatever.

[On dissection, it appears, Mr. Goodwin ascertained, that a pendulous fatty tumour, which had originally formed on the mesentery,* had entangled a knuckle of small intestine lying near the stomach, and by its ponderosity had fastened its chord inextricably round several convolutions of the intestine. The consequence whereof was, that inflammation, and consequent mortification ensued, as described by friend *Osmer*. Further, to shew the incurable nature of such an attack, in plate 2, fig. 3, is drawn, *the tumour* hanging down by an elongated chord of the mesentery; that now, instead of keeping the intestines in position, is thus drawn together in a knot, to the utter derangement of its blood-vessels, absorbents (of both kinds), its adipose structure and glands, and causing deplorable ruin, mortification, and death.

*(a)* The tumour; *(b)* a strangulated knuckle of

* The nature, cause, and effect of such tumours has been discussed in my "Veterinary Surgery," page 144, &c. Nothing new appears in the case, than that one of the *mesenteric glands* had separated through slight inflammation, and hanging down in a *cyst*, formed of cellular membranes, thus produced a chord resembling a fiddle-string, of great toughness. The cause hereof I should attribute to high feeding disproportioned to the animal's work.—EDIT.

intestine; *c, d, e, f,* other convolutions of the intestine, equally strangulated, gangrenous, and mortified. The chord itself lies buried, of course, in the depressed points of the strangulated gut.]

Thus, you see, how necessary it is carefully to discriminate betwixt those different kinds of colic, which will be best done by observing whether there be *fever* attending it or not; to ascertain the existence of which, or not, the pulsation of the artery is to be consulted, which may be felt on the hinder part of the fore leg, either above or below the knee of the horse; increased action thereof being indicative of inflammation, which is ever accompanied by *cold ears* and cold legs. Moreover, the horse in this last case will be frequently *looking back to his flank*, by which he points out in some measure the seat and nature of his disease, though not with absolute certainty; for, the same symptoms will attend the horse afflicted with the *stone* or gravel, which, by the bye, I believe, happens but seldom; but much greater certainty may be gathered even with respect to the difference of these complaints, by paying due attention to the nature and dryness of his dung or excrements, or his frequent attempts and motions to void his urine. But, whichsoever of these is the disease, thus far you will be right, that the proposed remedies will be proper in both complaints alike.

OF PHYSICKING away those and other ills, something may now be said with propriety.

With respect to *forms of physic*, every groom

and every farrier has his *receipts*, which he ever thinks the best that can be prescribed. We may even allow that the ingredients given in general may have much the same good effect; and that if any mischief befal the horse, it is much more frequently owing to subsequent bad management, than to the physic itself, especially in the cure of febrile disorders. For example—

*Molten grease* is generally brought on by good living and strong physic. Then it is, that such medicines as are of a stimulating nature should be avoided, because they greatly deprive the intestines of that *mucus*, which is designed to line and guard them; from the appearance of which mucus amongst the dung of the horse, the farrier gravely and wisely remarks, that "he is very foul," whereas, this appearance is but one of the efforts of nature to relieve itself of a superabundancy.

The mischief that generally happens to the horse *in physic* is owing to this cause, *namely*, that the medicines, not working so much, nor so readily as may be wished, the horse is trotted about till he is ready to drop, and is thrown into a *heat*, if not a sweat; by raising which new secretion, the purging is entirely stopped, and inflammatory fever ensues, which terminates in the loss of eyes, in diseased feet, (fever, &c.) or in death; many instances of all which I have known to happen.

*Fever in the feet.*—When the crisis of a fever falls on the feet, on this or any other such occasion,

the proper method of acting is to cut the hoofs off round and short at the toe, till the blood appears, and with a drawing knife score the hoof all round longitudinally, at proper intervals of space (till you reach the quick), beginning a little below the coronary-ring, and continuing the same to the end of the foot or toe. Hereby the new hoof will have more liberty to push itself out, and the matter to be discharged; the parts are to be dressed with some cooling *ointment*, and the whole foot to be wrapped up with an emollient poultice, by which means the feet will often become as good and sound as ever.

*Cooling Ointment.*

| | |
|---|---|
| Take of hogs' lard ..... | 6 ounces, |
| pound it in water, and cast away the latter in two or three hours, | |
| Olive oil ..... | 1 ounce, |
| Sugar of lead ..... | 1 drachm, |
| Flowers of zinc ..... | 6 drachms, |

incorporate the mass, and spread upon tow, enough.

*Relapses*, however, occur, notwithstanding this method of scoring *the feet* longitudinally is come much into practice, with a view to cure lameness arising from the contracted form of the same; which method, together with being *turned to grass*, expands the foot for a time; but, when these scorings are quite grown out, and the horse is taken to house, such foot returns again in a short time to its primitive natural contracted state, and he be-

comes just as lame as he was before, provided the *general health* is impaired by physic.

*Eyes.*—Of diseases of the eye, which come of severe physicking, I have little to say, having never seen any method of treating them but what is uncertain, and cannot be relied on; yet frequent *bleeding*, and the use of cooling *laxative salts*, often are of great service.

*Operation of physic.*—There are so many *forms* of purging physic already prescribed by all the writers and doctors, which, as I said before, may be all equally good, that it would seem needless here to direct any more; yet, for the reader's amusement, if not his instruction, I shall relate my own method, shaped according to the modern practice. The following is evidently intended

*For two Purging-Balls.*

I take of *Barbadoes aloes* a sufficient quantity, which given from one ounce to one and *a half*, is enough for a middling sized horse; of *powdered jalap* two drachms, and, because these resinous gums remain long on the stomach without dissolving, I add *two drachms* of *salt of tartar*, (or potass,) which is the proper menstruum or dissolvent thereof; and, to prevent griping, I add one ounce of *ginger* powdered: then *mix* with *soap* and syrup to make two balls.

But if the *salt of tartar* be first mixed with *the aloes*, the compound becomes immediately so brittle, that it cannot be given in the form of a ball; wherefore I sometimes mix the *aloes* and *jalap* together

by the heat of the fire, and give it in a ball;* and after that I give the *ginger* and salt of *tartar* in some warm ale.

*Over-dosing* the horse is a very common error; for it frequently happens, from the stimulating quality of the medicine, from *too large a dose*, or weak, tender habit of body, that a flux or purging continues many days; in this case give him gruel, made of boiled rice and water, with some gum arabic dissolved therein, and repeat it. This will sheath the over-stimulated bowels; and *philonium romanum*, (see page 124,) repeated at intervals of time, as *occasion* shall direct, will stop the purging; to which more *opium* may be added, if there be need. And when he will eat *corn* of either sort, let him have it as a change; or rice, either boiled or raw. But if he refuse all food, balls should be given him made of the *flour of beans* and *rice*, or boiled wheat-flour. For this latter, see "Grooms' Oracle," *Appendix*, article *White Water*, No. 6.

* This mode of making up aloetic purging-balls, by means of *the fire*, bears analogy to the plan of *casting them*, recommended in "The Grooms' Oracle," *Appendix*, under the head of "Aloes," *section 7*. I know not from whom I learnt it, or rather my father, but apprehend the art of *casting* them must have been derived from *William Osmer*, through one or two mediums, probably. His prescription of "an ounce or ounce and a half of Barbadoes aloes" is clearly the old mistaken notion of giving the most that a horse could bear; whereas the present practice is, to give the least quantity of aloes that will accomplish the object of discharging the bowels of their contents. The previous preparation of giving bran-mashes renders one such ball (as above) quite sufficient for any ordinary purpose.—EDIT.

The usual manner of treating horses when they take physic, is to give them nothing but *hay* to eat till the operation is over; and not to take them out to strong work on the day the physic is given. But, thinking I could find a method preferable to this, *on some occasions*, I have often ventured to deviate from this old *custom*, by giving the horse what *corn he would eat, reasonably* [if with a *large dose* in him]; and, by walking him out on the day he takes physic; but the *next day*, when it works, according to my plan, he does not go out at all, nor is allowed *corn* till the evening. The only effects I have ever found from this proceeding are, that walking him out the first day creates an appetite, so that, by filling his belly, he is less weakened, his blood is less impoverished, and he recovers his wonted strength much sooner, in such a manner, that he will be able to *hunt* again in a short time, or to run his *match*, if he has any such depending. It must be confessed, there is one apparent misfortune attending the horse in this way of purging, more than in the common one, which is, that he hardly ever seems ill with it; and a greater misfortune is, that the generality of grooms and farriers hardly ever think a horse is benefited by physic, unless it very much affect him, and reduces him almost to the degree of a *dog-horse*. To avoid this, the medicine I recommend is composed of *aloes and soap*, which latter acts as a diuretic as well as laxative, and is a medicine of much efficacy on many occasions.

But here occurs to me another good-for-nothing custom amongst grooms, when they intend to purge their horses; and this is, to give them *a sweat*, 'by way of stirring the humours,' as they call it, the day before the physic is given; but, for my own part, I am so peculiar as to be of a quite contrary opinion in this matter, believing the horse should rather be kept cool and quiet, for a day or two, before he takes physic; by reason that this *exercise* certainly produces some degree of inflammation in the blood, which is very likely to be the cause of swellings in the *extremities*, if physic be given immediately after it; the which I am sure has often been the consequence of such exercise, although imputed by grooms and farrier to *foulness* (see page 129); a term of art, which they alone understand the meaning of, in their own way.

Again, when horses have those cold œdematous swellings in the extreme parts, before spoken of, occasioned by the impoverished state of the blood and juices, or bad usage, the custom is to *purge away*, dose after dose, without knowing, that, by such *continued purging*, they are doing harm; for the free use of purges will render the blood and juices *thinner*, so that those swellings will be increased rather than removed, unless some proper warm potations are given between whiles, to amend the state of the blood; *i. e. philonium romanum* (page 124), or the White Water, No. 3, or No. 5, *Grooms' Oracle*, APPENDIX.

*Scowering.* When a horse is taken with a

dysentery, or *scowering*, to treat him first with medicines of an astringent quality is highly improper: but the cause of the disease should be first removed, by giving him toasted *rhubarb* and *nutmeg*; and, when this may have been supposed to operate, *opium* is the most effectual remedy, of which ten or twenty grains may be given at a time, and repeated as there is occasion. Seeing that the intestines are, in this case strongly irritated, and their mucus carried off, his proper drink will be gruel made with bean-flour, and some gum arabic dissolved therein; his food should consist of rice and bean-flour; and a clyster of meat-broth, without salt, thrown into the gut, would help to allay the irritation or *stimulus* of the same.

WORMS—*Botts*, of several kinds. *Excessive purgation*, or the frequent exhibition of *aloes*, leaves behind a disposition in the intestines to become irritated upon the least incitement; a feverish state that occasions the thickening of these, and, indeed, all membrane, which thus become *softer*, and affords to *worms* a secure nidus, and to the *bott* easier means of attaching itself immoveably, or of penetrating the intestine or stomach.

Ordinary worms will be cured by any form of mercury given in small quantities, by the preparations of pewter, tin, and oil; and I have been of opinion, that *botts*, too, would be cured by the same means, but later experience proves the contrary; [that is to say, the medicine does not succeed *always*, there being no specific whatever for the

worms, though sometimes one remedy prevails, in other cases another]. It is worth remarking here, that bitters can be no antidote to botts, because they have been often found alive in the *duodenum*, into which the bilious juice or gall is immediately discharged, than which nothing is more bitter.* Can bitters, then, have any better effects on *worms*, than on *botts*, if they are there found alive too? It appears, from experiments also, that worms put into the strongest bitters, live as long as they do in common water. [*Worms*, of every sort, are detached from the intestines by reason of these being restored to their proper tone; they are not *killed*, (as said,) but pass off alive.

But having lately had an opportunity of opening a horse that died in convulsions, which was known to have been troubled with *botts*, and to which they had, in order to effect a cure, given a considerable quantity of all that species of medicines for a considerable time before, I found a great number of them in *the stomach*, which was in some parts nearly eaten through, and the intestines were in some places eaten quite through.

*Bott-fly* and *worm*, natural history of. It was Mr. *Reaumur*, in his "History of Insects," who *first*

* All bitter *medicines* are tonic; but the bitter *secretions* are only irritating: those substances belong to different kingdoms of nature, viz. animal, vegetable, and mineral. I apprehend that *worms* are *cured* by the use of bitter medicine, not by its *killing* them, but by bracing the stomach, &c. so that they are compelled to *pass off*.—EDIT.

made some curious observations on this ever-interesting subject.* He begins with saying—

'Amongst the animals that are useful to mankind, *the horse* is certainly entitled to the first rank, and yet this animal, considerable as it is, and contrived by its figure and beautiful proportions to afford us pleasure, was not given to mankind alone; for there is *a species of fly*, whose right in this creature may be looked upon as still better founded than our own.'

Now, if this should happen to be true, what a mortifying circumstance, and stumbling-block of offence, it will be to those unphilosophical people, whom pride and custom have taught to believe, that all things were made for man alone! He goes on to say—

'If the horse be useful to *us*, he is absolutely necessary to the *fly*; the same Being that formed the horse having formed also this *fly*, which depends wholly on the horse for its preservation and continuance. The flies we are speaking of, like those of all other species, receive their first life and growth in the form of *worms*; but these are worms that can be produced and nourished only in the intestines of a horse. It is there alone they can enjoy the proper temperature of

* *Bracy Clark's* Treatise on the *Botts* did not appear in the world until half a century behind *William Osmer's*, and about three-quarters of a hundred subsequent to the Frenchman's *History of Insects*, quoted in the text.—EDIT.

'heat, and receive the nourishment necessary for
'their existence.

'Besides the long, and sometimes very long,
'*worms* which have been observed in the bodies
'of horses, there have been seen also short ones,
*(i. e. botts)*. 'All authors, both ancient and
'modern, who have treated of the diseases of
'horses, have taken notice of these short worms;
'but Mr. *Valisnieri* (an Italian writer on *Veteri-*
'*nary Surgery)* is the first who traced them
'through the stages of their transformation, and
'has seen them change into a *hairy kind of fly*,
'like the *drone*. The *flies* from which these *botts*
'are produced inhabit the *country*, and do not
'come near houses, at least, not near those of
'*great towns*; and, therefore, horses are never
'liable to have *botts* in their bodies, if they have
'been kept in the house, especially in a town,
'during the *summer* and *autumn*.

'It is in the former of these seasons, and per-
'haps too in the beginning of the latter, that the
'*females* of these flies apply themselves to the *anus*
'of horses, and endeavour to gain admittance, in
'order there to deposit their eggs, or perhaps
'their *worms*. The precise instant of their en-
'trance will scarce admit of an eye-witness, but
'by the merest chance; yet Mr. *Valisnieri* says,
'that a Dr. *Gaspari* had attained this very uncom-
'mon sight. The doctor (he says) was one day
'looking at his mares in the field, and from being

'hitherto very quiet, he observed that of a sudden 'they became restless, and ran about in great agi-'tation, prancing, plunging, and kicking, with vio-'lent motions of their tails. He concluded, that 'these extraordinary effects were produced by some 'fly buzzing about them, and endeavouring to settle 'upon the anus of one of them; but the fly not 'being able to succeed, he observed it to go off 'with less noise than before, towards a mare that 'was feeding at a distance from the rest; and now 'the fly taking a more effectual method to obtain 'its design, passed under the tail of the mare, and 'so made its way to the anus.

'Here at first it occasioned only an itching, by 'which the intestine was protruded with an in-'creased aperture of the sphincter; the fly, taking 'the advantage of this, penetrated further, and 'secured itself in the folds of the intestine. This 'being effected, it was in a situation proper for 'laying its eggs. Soon after this the mare became 'very violent, running about, prancing, and kick-'ing, and throwing herself on the ground: in 'short was not quiet, nor returned to feeding, till 'after a quarter of an hour.*

* In South America, the bott-fly (*Oestris equi*) like all other insects of that quarter of the world, grows to a great size, insomuch that strangers have likened them to *birds*; at least, thus we find the kind rendered in a translation from the Russian Captain Kotzebue's Voyage, in 1823; a venial mistake that is very excusable in a translation from Colonial Spanish into Russian, thence into German or French, and thence into English. "The Governor of *Manilla* told me, that sometimes

'Thus we see the fly can find the means of de-
'positing its eggs, or perhaps its worms (*i. e.*
'*botts*) in the fundament of the horse, which,
'once effected, it has done all that is necessary for
'propagating the species. If the *worms* are not
'hatched when first deposited in the horse, but are
'then only eggs, it will not be long before this
'happens, from the nutritive heat they there receive.
'Soon after the worms make their way into the
'intestines of the horse; they occupy such parts of
'this region, as are to them most convenient, and
'sometimes they penetrate even to the stomach.
'All the hazard they appear to be exposed to is, that
'of being carried away from the places they have
'fixed on, by the excrement, [and spiral motion
'of the intestine, we term the *peristaltic*,] which
'may seem likely to drive all before it. But
'nature has provided for all things, and when we
'shall have further described these *bott-worms*, it
'will be seen that they are able to maintain their
'situation, and to remain in the body of the horse
'as long as they please.

the wild horses of the interior are subject to a singular fate: a bird makes its nest at the root of their tail; as soon as this happens, the horse grows lean, and does not recover even after the bird has flown away with its young." *See Annals of Sporting*, vol vii. page 102. Later naturalists reckon three sorts of *Oestris*, or bott-fly; the most pertinacious, noisy, and dangerous, being the one just described; the second kind attacking the head principally; and the third, less active, depositing its eggs on the horse's coat, whence they are licked off by the animal and pass into the intestines.—EDIT.

'There is a season when these *worms* are of 'themselves desirous to leave this their habitation; 'it being no longer convenient to them after the 'purposes of their growth are answered. Their 'transformation to a fly must, it seems, be per-'formed *out of the horse's body;* accordingly, 'when the time of their transformation draws 'near, they approach towards the anus of the horse, 'and so leave him of their own accord, or with the 'excrement, with which they then suffer them-'selves to be carried along.

'*In shape*, or *figure*, the *bott-worm* affords at 'first sight nothing remarkable, but appears, like 'many other worms of the first class to which it 'belongs, that change into flies with two wings, 'and like the greatest part of the worms of that 'class, they are provided with a sort of scaly claws, 'with which they draw themselves forward.

'*In colour* there is a difference observable be-'tween those that are taken or driven *by force* 'from the intestine of the horse, and those which 'come away of their own accord; some of the 'former are *greenish*, some *yellowish*, and others 'being nearer to perfection are *brownish*, these 'last are nearest, and the greenish ones the 'farthest from the time of their transformation.

'The *claws* form a peculiar and distinctive mark 'of the *bott-worm*. If Mr. *Valisnieri* and myself '(Mr. Reaumur,) have rightly observed the posi-'tion of their claws, some individuals differ from 'others in this respect; but all are perfectly simi-

'lar in every other particular, and all change in
'flies so nearly alike, that I am convinced they a
'of the same kind and origin. However this b
'the *bott-worms*, which are the subject of o
'present pursuit, have two unequal claws; a
'since I have been acquainted with the nature a
'use of them, I have had no difficulty to conceiv
'how they may still remain in the intestines of t
'horse, in opposition to all efforts to force the
'out. One worm that I was handling and ex
'mining, fastened upon my finger in such a ma
'ner, that I found great difficulty to disengag
'myself. These *claws* are a sort of anchor, diff
'rently disposed, indeed, from those of comm
'anchors, but contrived to produce the same effe
'Besides these two claws, nature hath also giv
'to each *bott-worm* a very great number of tria
'gular spines or bristles, quite sufficient to arm
'against the coats of the intestines, and to res
'the force employed to drive the intruders t
'wards the *anus*, provided the head be direct
'towards the stomach of the horse.

'It will be asked, no doubt, if these *bott-wor*
'are not dangerous to horses? This will depe
'upon other circumstances. For example, t
'mares which afforded me, for several years, th
'worms on which I made my observations, did n
'appear to be less in health, than those which h
'none; but it may sometimes happen, that th
'are in so great a quantity in the body of the ho
'as to prove fatal to him.—Mr. *Valisnieri* furt

'supposes these *bott-worms*, to have been the cause 'of an epidemical disease, that destroyed a great 'many horses about *Verona* and *Mantua*, some 'years since; and the observations communicated 'to him by Dr. *Gaspari* sufficiently confirm his 'supposition.

'That gentleman, upon dissecting some horses 'that died of this *distemper*, found in their sto-'machs a surprising quantity of short worms; of 'which, to give us some idea, he compares to the 'kernels of a *pomegranate*, opened. Each of 'these worms by gnawing the coat of the stomach, 'had made for itself a kind of hollow *nidus* or 'cellule therein: these cavities would easily con-'tain a grain of *Indian* wheat, each. It is easy 'to imagine how, by this means, the stomach must 'be reduced to a wretched condition. The outer 'membranes were inflamed, and the inner ones 'ulcerated and corrupted; a very small quantity 'of worms were found in the small intestines, and 'only a few in the larger, to which last they were 'found affixed, but had not corroded there, as in 'the stomach. A very few flies must be enough to 'overstock the inside of a horse, provided, they 'should deposit all their eggs, and such should all 'be animated, Mr. *Valisnieri* having counted up-'wards of seven hundred in the body of one 'single fly.

'When one of these botts has left the anus of 'the horse, it falls on the ground, and immediately 'seeks out for some place of safety, where it may 'retire to prepare for the last stage of its transfor-

'mation, by which it is to become a fly. And 'now by degrees the skin hardens, and thickens, 'and at length forms a solid shell or cod, the form 'of which differs scarcely any thing from that of 'the worm. At first it is of a *pale red* colour, 'which changes into *chesnut*, and at length, by the 'addition of gradual and successive shades of '*brown*, the shell is rendered *black*.

'The worm, or bott, before it passes into the '*nymph* state is of the form of an oblong ball; 'and retains this form much longer than worms of 'the *flesh fly* kind. I have met with worms, that 'retained this figure five or six days; but as yet 'one can perceive no traces of the legs, wings, 'and head of the *nymph*.—Hence I first ascer- 'tained, that these *bott-worms* do not become '*nymphs* immediately upon their first change; but 'that, in order to become flies, they must undergo 'one change more than caterpillars ordinarily do 'to become butterflies.'

This doctrine, and our own observation, will teach us some truths worth knowing. *First*, that horses may occasionally die with spasms, and convulsions, when these botts lodge in the stomach and intestines, and corrode the same, instead of coming away with the dung. *Secondly*, that no medicine ought to be esteemed a specific remedy for *botts*, till we see them brought away *dead** by their effects; and therefore, if they did not generally make their

* What signifies whether dead or alive, so they come? I have been long of opinion, that horses take green food of an anthelminthic quality when at soil.—EDIT.

escape by some law of nature unknown to us, horses would die much more frequently than they do with the ravages of these insects.

Having said so much concerning those enemies of condition in the horse, come we now to the means of

*Cure.* Take of new milk one quart, honey half a pound, mix and give the horse this in a morning; let him fast after it an hour and a half, then give him a pint of strong brine, (*i. e.* salt and water,) more or less, according to the size and strength of your horse, fasting after that, another hour. Repeat this treatment three or four successive mornings; this destroys the worms, and leaves no appearance but of their skins, or shells, which are brought away with the excrement. This treatment, with opened bowels, kills worms of all sorts and sizes.

THE FARCY is another of those disorders that arise from vitiated blood; and when caught by infection, as it may be by licking the matter from other horses, the same effect will be produced.

When the skin breaks, and buds of sprouting fungous flesh appear on any part, such are to be touched with a rag dipped in *corrosive spirit of salt,* (*i. e.* muriatic acid,) in strong *spirit of nitre, aqua fortis,* or in any other such medicine. When swellings fall on any part, which is no uncommon symptom in this disorder, a poultice made with the *emollient fomentation* thickened with *oatmeal,* is to be applied thereto twice a day.

SCURFY ERUPTIONS. With respect to ma-

lenders, swelled legs, scratches, scurfy heels, what is called the grease, and such like disorders; these all proceed from a languid and obstructed circulation, whence ensues coldness in the extreme parts. To remedy these evils, let *warm fomentations* be applied to the parts; good rubbing of the limbs is necessary, and a poultice composed of rye-meal and milk is a proper application to sore heels; all unctuous things doing more harm than good. The habit of body also must be altered, if we would amend the vicious state of the constitution; for which purpose, the medicines that are most proper to be given internally for all those disorders, of which I have been speaking, shall be set down presently.

Meantime, let me earnestly recommend one universal remedy and preventive of all bodily disorders, that has been too much neglected by all persons and degrees of the physic-giving genus.

*Salt* is that curative I allude to, in all its forms and denominations; whether under its most simple acceptation as *table salt*, or as *nitre*, *Glauber's*, Epsom salts, or any other of its half a score combinations. After a short while I shall return to the subject more at large: namely, in Chapter V.

Now, the virtues of salt or sea water are in all such cases of disease very remarkable, as I myself witnessed, for many years; for, having occasionally resided near the sea-coast, I could not help observing the beneficial effects of it. There is a well known custom at *Margate*, when people bathe, to be

drawn a little distance into the sea, in a machine, with *one horse*; the which, by a constant succession of bathers, remains in the sea perhaps every day of the *season*, for four, five, or six hours together; and whatsoever ulcers or cutaneous disorders the horse may chance to have, he is by such practice being continued for a time, sure to be cured of,—I mean in such parts as the water can reach.

Hence I was led to conclude, that the virtues of salt water would extend farther than are yet known, if the subject were properly considered. For instance, in the case of people being bit by mad dogs, that are sent to sea to be dipped, we find that some are cured, some not; and I believe it is owing to this cause, that they are not all cured, *namely*, that it does not operate alike on all men; for some, who can swim well, having no fear of drowning, though perhaps damnably soused by the dippers, receive none of this water into their stomach, whilst others who cannot swim, what between the fear of being drowned, and gaping for breath, do often imbibe a great quantity of sea-water, and are hereby strongly operated upon both upwards and downwards. In these operations, I think, consist the virtue and effects of sea-water, as an antidote to *canine madness*, and not in the act of bathing itself. What confirms me in this opinion is, that if one dog be bit by another, in ever so severe a manner, even in the head, which is by some thought incurable, such dog, by often taking

*turbeth mineral*,* that operates upon him upwards and downwards, or either way, will be most certainly cured, at least I have always found it so. This effect, I think, is brought about by the *action* of the medicines, and not by any specific quality, either of the salt or the mercury; for, there is no medicine known that can properly be said to contain any specific quality. But, when we practitioners know not how to account for the effects or *mode of operation* of any given medicine, we, to keep up the shew of knowledge, and to gratify our doctorial pride, have recourse to *hard words*, or terms of art, that serve in reality to betray our ignorance. But sea-water has by no means an equal chance in this respect with the medicinal remedies; for, in these last the patients persist for a time, and go through a long course of physic and regimen; whereas, in the other case, you dip once, and off you go about your business. This naturally brings us to inquire, if there be any virtue in sea-water that may be an antidote to the bite of a mad dog, (as undoubtedly there appears to be from many instances,) why not stay and make sure of it, by continuing to bathe, and to drink also, for a length of time?†

* Given in the quantity of half a drachm it irritates the bowels of the canine species, but is too strong for the horse, even in farcy, which it is well calculated to subdue.—EDIT.

† We must not allow ourselves to be led away by the author's confidence in the efficacy of sea-bathing as a cure for *canine madness:* it has been tried on a large scale, and often, but did

With respect to the more general medicinal use of *salt*, I take leave to suggest that it may be of as much service to mankind in many disorders as it is to the brute creation; respect being had to the difference in size and constitution. For, in scrophulous and *scorbutic complaints*, gravel, cholicky pains proceeding from heated bowels, in fevers, inflammatory disorders of all kinds, bilious obstructions, rheumatic complaints, in intervals of the gout, and many other chronic disorders, it will be found *a medicine* of great efficacy, if continued to be taken for a time. But the general misfortune attending all medicines, intended to act as *alteratives* on the system, is, that the patient expects to be cured in a few weeks of a disorder he has been treasuring up for many years, and perhaps continues daily to increase by *free living*.

To cleanse the stomach from slimy viscid juices, *salt* will be found a proper remedy, as may be inferred from the use of sea-water; which, if taken too freely, will operate not only on the stomach, but on the coats of the intestines also, in such a manner, as greatly to discharge their mucus, and produce

not succeed; and we are still without any remedy for this melancholy disorder, notwithstanding the great number of asserted cures which we have heard of and tried during the last thirty years. In this dilemma it is consolatory to know, that the horse suffering under hydrophobia, in its worst forms, does not communicate, by *his bite*, this disease to other animals, or to man. The same is the case with horned cattle, asses, &c.—EDIT.

violent bloody fluxes, various instances of which have been known.

*Origin of disease.*—Now, *food* and *climate* I take to be the origin of all disease; by which two things, *the bile* or gall is more immediately and primarily affected in all countries, and in all constitutions. From which last source (climate or season) the generality of chronic disorders, and some acute ones, are also derived.

The use of this bile is to complete the digestion by assimilating the food, and rendering *its juices* fit to enter the lacteal vessels. It is the soap or menstruum of the body; the fountain and origin of all other *secretions*, on the regularity of which health depends, and without which every animal on the earth would soon fall into a state of putrefaction. Hence I have been led to think, that what we call real [original] diseases, howsoever distinguished by their various names and symptoms, are, after all, no more in general than secondary effects, produced by the state and nature of the bile, and altered manner of the *secretion* thereof.

In colder climates, or inactive life, this *bilious juice* is more sparingly secreted. Hence the various kinds or loads of aliment imposed on the stomach, not being duly assimilated, either from the quantity or quality of this juice, other *subordinate secretions*, depending on this proper one of the bile, will not be regularly or truly promoted. Hence obstructions will arise of various kinds, and different

*animals* will be variously affected, according to the different organism of their bodily system.

The diseases we call *hereditary* depend altogether (as I conceive) on the particular frame and texture of these bodily organs, and is not any real *latent disorder*, as generally understood. From a *similar cause*, or habit of body in parents and offspring, *similar effects* are occasionally produced. This doctrine will be more accurately understood by observing, that one son shall be afflicted with the same disease the father had, and yet another son, though, perhaps, not so moderate a liver, shall escape this particular disease, by being constituted like the mother.

To this it may be objected, that many people, who were always very abstemious livers, have been, even from their younger days, afflicted with the very same disease their fathers had, and, therefore, such disease is real and self-existent. To which I answer, that the effect of climate, as well as of food, will bring on particular diseases, on people particularly constituted; for instance, many persons afflicted with the gout, scurvy, rheumatism, and so forth, in one climate, shall, by living in another, entirely lose such complaints. [For proof hereof, instances enough to convince a sceptic might be adduced; and in case of *ague*, in entire districts, it has been eradicated by changing the nature of the soil from a swamp to tillage ground—the hundred of *Dengy*, in *Essex*, for example; for, hereby was the climate altered from constant humidity and

summer exhalations to a tolerably dry, comfortable, and healthy district.

Again, in some of the eastern countries many people, particularly those of a corpulent habit of body, *not circumcised*, are very subject to ulcers under the foreskin of the penis, which, in time, for want of due care and cleanliness, become virulent and infectious. Hence we may learn, that some diseases derive their origin from *climate alone*, and that the institution of circumcision in such countries for any society of people, whom it was desirable should be kept clean and healthy, was a very wise one, whether ordained by divine or human authority, though most likely to be strictly observed *when propagated as a religious law*, as it was by *Moses* and *Mahomet*.

Now, to conclude my earnest recommendation of the free use of *salt* in all those diseases that arise from *obstruction* in the secretions [as spoken of before, pages 64, 121, &c. as giving *bad humours* to the blood], let us say a few words as to the secretion of *too much* of the *bilious juice*, in particular; as is the case in hot climates—producing affections of the liver. Under these circumstances, it is probable, *the use of salts would prove detrimental.* And I have been told, by a very judicious surgeon, who practised some years in the *East Indies*, and who was also fond of giving *nitre in fevers*, from the success he had occasionally observed attending it here, that this medicine, given in fevers peculiar to that country, was, according

to his observation, very destructive; and that, by its promoting still greater secretions of the bile, immoderate fluxes were produced, which generally ended in death.

Perhaps, also, the different complexions of mankind, inhabiting the various parts of the globe, depend alone on the secretion of this bilious juice. The colour of a *black* arising from nothing else than a kind of *mucus*, which is secreted and retained between the skin and the cuticle; the *fibres* of the skin being white in all people.

[This is what we now know by the term *scarf-skin*, the next being composed of cross-barred fibres resembling *net-work*; whence, and from its function of secreting the lubricating *mucus*, it has acquired the term *rete mucosus*.] How absurdly, then, do such people argue who maintain, that there are *two sorts* of men created by the Almighty, the one kind destined to slavery, the other to wealth and power! Whereas this latter is the effect alone of arts and arms.

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## CHAP. V.

*Treats more particularly of the Remedies before prescribed; suggests Variations, and recapitulates the new Doctrines laid down in the preceding Chapters.*

SALT.—[Whatever person shall, upon reading

the foregoing pages, imagine that salts are recommended as a *brisk purge*, that is to disorder the horse and reduce his strength for several days—according to their system, is very much mistaken. In whatever form *the salts* we term *neutral* are administered, the effects produced is never immediate or striking; nor subject to *failure* by being turned aside from the purpose intended, as happens with the more *active medicines;* but it operates slowly, with certainty, and always beneficially. Of this whole class, *sea salt*, or common *household salt*, is the most useful for veterinary purposes, *nitre* alone excepted; both may be used as well internally as externally, but *sal ammoniac (muriate of ammonia)* is chiefly employed in embrocations for strains and bruises, along with vinegar. *Salt of tartar*, or of *wormwood*, is no other than the *prepared kali* of the shops; whilst soluble tartar, or *tartarized kali*, is formed by the same being combined with vinegar, or *acetous acid*. If the *prepared kali*, otherwise purified potash, be treated with *vitriolic acid*, then *sal polychrest*, so often recommended in veterinary practice, is the product.

Already I had remarked that salt externally employed is a great discutient, and, inwardly taken, it is a great deobstruent also (page 60). From this *deobstruent quality* of *salt*, it stands recommended to the world as the best general medicine that can be given to horse, dog, or man, for preventing disorder as well as removing ob-

structions.* But if any man is acquainted with one that is more so, he would be highly culpable not to use it. Nor am I so partial an advocate for this medicine, as to think it incapable of improvement, by being joined to some other; for *antimony*, added to *nitre*, will render it more powerfully deobstruent, and a more efficacious medicine in all diseases befalling the horse. If, then, we take of *nitre* two parts, and one of *crocus metallorum, (sulphuretted oxyde of antimony,)* alias liver, first rubbed together, and deflagrate them over a fire, in a crucible, by putting in a little at a time, we shall have a medicine nearly analagous to Dr. *James's* celebrated *fever powders;* one or two drachms of which may be given twice or three times a day, as occasion may require, and the patient can bear the repetition.

[Language has been exhausted in the praises of antimonial preparations, and of Dr. James's fever powders, which is the identical *crocus metallorum* recommended by *Osmer* to be deflagrated with double its weight of *nitre*. His *dose* would appear

* No man who takes *dry salt* in abundance, but enjoys robust health—all other circumstances fitting—say with his dinner, two to four drachms daily throughout the year. *Salt* administered dry destroys worms, and detaches the *bott*. A case of a dog being cured of worms by a spoonful of salt is reported in "The Farrier," No. 31, page 303. In such cases, administer it wrapped up in tissue-paper. At Melton-Constable, in Norfolk, the hounds of Sir Jacob Henry Astley are retained in health by a table spoonful of salt given daily.—EDIT.

too large; so an alteration has been here made more consonant to our modern practice.

This will be found a very potent remedy in the farcy; in cutaneous diseases; in local swellings, where the juices are viscid, and the circulation is become languid; for loss of appetite; in plethoric and in bilious complaints, where the blood is depraved by any antecedent fever; in the inflammatory cholic, and all inflammatory disorders; in obstructions of the urinary passages, and all others; in epidemical diseases, or what is called *the distemper* amongst cows and horses; in coughs, *colds*, sore throats, in fevers of every kind, and many chronical disorders: for this excellent medicine *attenuates the fluids*, and promotes secretion and excretion to come off more copiously; hence the obstructions productive of disease are removed, and the animal restored to his pristine health. To this deflagrated *nitre and antimony*, other cooling neutral salts, mentioned before, may be added with great propriety on all occasions where the first shall be thought proper.

If any man should wonder at, or object to the virtue of *salts and antimony*, considered in such a universal light, I desire he will consider and remember too, that in the diseases which befal horses, *the fluids* only are in general concerned, which is owing to the sameness and simplicity of their food. Hence, too, the viscidity of their fluids is more easily removed; hence their diseases are less

complicated, less various, and less intricate, than in the human species, whose luxurious and unconfined repasts have produced such a number and variety of complaints as perplex and puzzle the most nice inquiry.

But, lest I should be thought too fond of the *virtues of salt*, with respect to its general efficacy, I should be glad to know wherein consists the virtue of all the boasted medicinal *waters* of the world but in the salt which they contain? *the water itself*, independent of its impregnations, having no more effect than any other common watery vehicle. *Hot* ones, indeed, (whilst they remain in a state of heat,) may, perhaps, be impregnated with other materials also. Hence we perceive the right reason assigned by the physician of man, who having long, in vain, drenched the sickly mortal with every drug the world affords, sends him, at last, to drink some kind of water that happens to be most in fashion. Now the *salts* of different waters differ in their nature and effect, whereby different constitutions are diversely affected. Hence the patient of the son of *Æsculapius* is often left, like those of the farriers, to be cured by chance.

——Quid rides? mutato nomine, de te fabula narratur——

[Yet, may we not, without evident injustice to the cause of truth, turn our backs upon the result of some experiments recently made on the action

of *salt* upon the *blood*, detailed in a subsequent page (171). Passing over every other point there adduced, the bare fact of *salt* so applied preventing putrefaction in the crassament of blood, is fully conclusive of the manner in which it acts upon the living animals; and may be looked upon as a very triumphant confirmation of friend *Osmer's* astuteness regarding the application thereof in curing all diseases of the constitution, and satisfactorily accounts for the apparent stubbornness with which he returns to this topic again and again.]

But though men, as well as horses, often "die of the doctor," yet are there many worthy practitioners in this kingdom, whose integrity, judgement, and close observation of diseases do honour to themselves and benefit to mankind.

*In conclusion*, the author having gone through this portion of his task as concisely as he well could, and being inclined to edify, rather than to puzzle the reader by *multiplying useless words and medicines*, or by enumerating diseases that exist no where but in the imagination of *authors*, who thought themselves obliged to treat of every disorder they had ever heard of *incident to man*, as if they believed the horse was afflicted with the like, he must here observe, that this conciseness will save both writer and reader some trouble, which is a matter of no small consideration; and the author is of opinion, that he has done more good in bringing the practice of physic, with respect to horses, into this narrow compass, than if his book had been fur-

nished (like some which have gone before it) with a greater number of receipts and medicines.

Although he has endeavoured to treat this subject as clearly as he could, yet must it be confessed, that no method of treating, either *diseases* or *wounds*, can be set down so clearly or precisely, but that much will depend on the judgement of the practitioner. In the one case, from appearance and locality; in the other, from the occurrence of various symptoms often annexed to the same disease; in both, from variances in the habit of body; though it must be allowed, that the preparations of antimony before recommended (page 155), are less affected in the *mode of operating* by changes in the state of the stomach, than any other medicine whatever. Should it so happen, that the practitioner finds his purpose not answered in giving any of the medicines here recommended, I must beg the favour of him to reflect, that it may possibly be owing to his own want of skill in the *proper use* and *management* of them; and to consider that the *reading* of any one or more books on physic (though ever so perfect) will not alone make a man an able horse doctor; the skill of such a one consisting as much in close observation of the efforts of nature, a thorough knowledge of the animal economy, and a *proper application* of the remedy, as well as to know the virtues which belong to it. Add to this, the symptoms may sometimes be mistaken for the disease, and the disease for the symptoms. Again, some two or more diseases, from having the same appearance, may be mistaken

for each other, as has been shewn in the case of the *botts*. Moreover, medicines given to a horse, that may from his particular constitution disagree with him; such, for instance, as *nitre* (the least quantity of which some men, and some horses, are utterly unable to take without sudden bad effects), may bring on new symptoms utterly unconnected with the disease, and for which there is no possibility of laying down any *certain* proper *treatment*; and yet this is not owing to, nor ought to be imputed to any fault in the medicine, but to the particular habit of body in those who take it, which no human wisdom can foresee. To avoid this kind of disaster, in some measure, nitre should be always compounded with *gum guaiacum*, if no other mucilage is prescribed.

*Clothing* sick horses is a matter of great importance, and the abuse of it much more so. In gentlemen's stables, it is a general custom, when horses have colds or fevers, to load them with a vast quantity of superfluous clothes, lest they catch cold; whereas, this but increases the impetus of the blood, and accelerates its motion. Hence ensues an increased contraction of the blood-vessels, and an impeded secretion and excretion of the fluids; so that incisions made in the skin of a horse ill with a fever, will not afford so great a discharge as they would otherwise do, neither will he be so much relieved by *bleeding*, when this practice of loading him with clothes is permitted. For these same reasons, all medicines that are of a heating

quality given to the horse in a fever are improper, and must do harm.

*Finally*, whatever be the complaint, there is less skill required in treating properly the diseases of horses, than of men; for, although horses cannot tell their complaints as men can, yet their diseases are more easily known, and better understood by a nice observer, because they are less complicated, and less various, and that for the reason before given, namely, the nature and sameness of their food. And now, gentle reader, if you have ever read much on this subject, you have also read of many other diseases incident to the horse, besides what are contained in this little book; but for my own part, who am ever ready to confess my failings, I acknowledge, that I have not been able to discover any other (few excepted) than what have been here treated of;* but I can readily believe, that a horse may have tumours internally, encysted and otherwise; that he may have diseases of the omentum, and of the blood vessels, attended with ruptures of the same, (see page 120.) But I hold it vain, to trouble the reader with an account of diseases that will admit of a very uncertain, or no remedy, though managed perhaps with the greatest skill.

* The *glanders* is in this predicament; but there being no medicine that will cure this malady, the author, with this desire for conciseness so strongly impressed upon him, might well hesitate to speak *about it*.—EDIT.

*OBSERVATIONS on some of the main Points which have been successfully handled in the foregoing Pages: recapitulation.*

I.—That the generality of *lameness in the fore-part* of the horse derives its cause from improper methods of shoeing, and treating the foot, as well as from the ill state of the lungs.

II.—That such lameness, though the cause be not visible to a common observer, nor understood by such as are unacquainted with the nature, conformation, and use of the parts, and therefore commonly mistaken, and so deemed incurable, *may be most frequently cured.*

III.—That the custom among farriers, of applying remedies to the *different parts* of a lame horse at the same time, is a certain proof of their ignorance, and a manifest confession of not understanding the *true seat* of the complaint; and that without this previous knowledge, no disorder whatever can be cured, whether *internal* or *external.*

IV.—That, from the great dislike all farriers have to flat or *short shoes*, every lameness in the horse is by them ever imputed to such shoes, be the real cause what it may; few such men believing there is any advantage in what they do not already know, or have not been accustomed to.

V.—That short shoes often prevent *cutting*, either behind or before.

VI.—When the sinew of a horse is relaxed, or

*elongated*, or what we call *let down*, two incisions must be made through the skin, below the diseased part, and be kept running, taking care not to wound the sheath or fibres of the tendon.—Apply to the relaxed part *alum, curds and whey*, or the *salt cataplasm*, with a smooth bandage. Thus, many a horse has been effectually cured, after having been blistered and fired to no purpose: thus, too, have I known many a heavy stag-hound, that was quite let down behind, and went upon his hocks, to be cured, and afterwards run in the pack, merely by making an incision in the skin, and filling it with *salt*.

VII.—Where *bleeding* and *rowelling* are directed to be used at the same time, it is not intended, that bleeding should be used *after* the rowels have begun to discharge well, nor will there be any occasion for it. But *before* the rowels have begun to discharge, and the symptoms appear dangerous, then repeated bleeding may be allowed of, and will be often necessary; for the horse may otherwise die, before the rowels can possibly take effect.

VIII.—That, in *vertigo*, or convulsive disorders, *opiates* ought to be given (as the *philonium romanum,)* if any such symptoms remain, *after the fever is gone* off, and proper evacuations have been *previously employed.*

IX.—That, in *cutaneous diseases* about the neck or body of the horse, not submitting to *gentle purges*, and *alterative medicine*, blistering the part will sometimes be of use.

X.—That, in cold *watery swellings*, or the grease, castile soap and yellow resin, may properly enough be given, mixed with the *deflagrated nitre* and *antimony* (Dr. James's powders), and other neutral salts, *first emptying the intestines* by a gentle purge; but where there is any degree of inflammation attending a swelling, *note*, the resin will be an *improper* medicine.

XI.—That there is a certain degree of skill required in the use of such diuretic medicines, (as well as of all others); for, if the urinary secretion is too much increased in such complaints, where the horse's blood is already poor and thin, the disease will thereby be increased, rather than lessened.

XII.—*Sand-cracks*, *corns*, and *false-quarter*, are cured with the greatest certainty, as well as many other disorders, that have been always deemed incurable, because not properly understood, by attending to what is said before.

XIII.—*Incurable lameness* is shewn to be such, whereby the horse will escape unnecessary punishment, and the owner avoid useless expense.

# PART IV.

TREATS ON THE ORIGINAL BREEDS OF HORSES, WHENCE PACE AND LENGTH ARE TO BE DERIVED, AND WHAT LITTLE RELIANCE IS TO BE PLACED ON MERE BLOOD,—TRUE SHAPE AND MAKE BEING WANTING.

## CHAP. I.

*Introduction, by Mr. Hinds, as to what Constitutes the Blood Horse, Thorough-Bred, or Racer. Of Arabs; Qualities of Blood; Barbs, Turks, English Horse and Flemish.*

By *blood* ought to be understood, not exactly *the fluid* that flows in the *arteries* and is taken up by the *veins*, but the actual possession of the *same kind of blood* that animates the particular description of horse to which affinity is claimed. To the want of due discrimination on those points is to be attributed the controversies of which we see no termination. Relationship, kindred, or derivation from a particular stock, is *the blood* of that stock: and the horse having been originally indigenous of *Arabia*, where speed, lastingness, and courage are combined in its highest degree, we call those horses "blood," which we can deduce as coming from that stock or blood—seeing that *no horses can run and last*, which are not so derived from that original stock. Our English race-horses are all

derived from that source; none can race and live to the end of a long course, which have not been so derived, nor is any horse to be esteemed as *thorough bred* whose title cannot be so deduced and capable of carrying back their pedigree to such original parent stock of runners—the *Arabian horse*. This will lead us shortly to inquire what is *Arab*, and its deviations into Barb, Turk, &c.; meantime, *as to blood*, the fluid that fills the veins, and how this is concerned in promoting fine form, speed, and the necessary qualities for winning in the race.

*Thorough-bred* is the phrase by which we all designate horses derived from the original parent stock of *Arab horse*, grafted on our own best horses at a time more or less remote; whose cultivation has employed the care, and whose family pedigree is little contaminated with horses not derived from *similar sources*, that is to say, not winners. Same source breeding, or of same family, being ultimately destructive of *size*, is not here meant to be inculcated; for courage, and swiftness, and size, are likewise affected by thus breeding *in-and-in*.

On this topic, we may say, as of many others, "of controversy there is no end;" and whilst one party insisted strongly that this *blood*, or kindred to the *Arab get* was every thing, and shape, make, form, were nothing, so that the horse were well *connected by blood*, relationship, or kindred, to any one or more of the best stock; the other party maintained that *the blood* weighed nothing whatever in the scale of merit, and conduced nothing to

the racing qualities of the individual horse whose prospective qualities they might be discussing at the time. But both received some signal rebukes *in practice*; for both were wrong in the extremes to which they carried their argument; many horses whose sires and dams enjoyed good repute, having failed in *performance*, whilst a few unexpectedly *came out* and proved themselves worthy subjects of admiration and applauses that their immediate precursors were strangers to, and deserved not. Among these conflicting opinions, it is difficult to ascertain which *Osmer* embraced most fervently, as he is strenuous for an Arabian origin (or, as he calls it—*foreign*, or Eastern) to constitute the racer, yet does he deny the efficacy of blood—the fluid, *blood*, in producing the qualities which constitute a good racer. This latter part of his proposition we shall endeavour to set at rights, previously to giving his doctrine full audience; and we entertain little doubt of reconciling the apparent dissonance under which he seems to labour, in common with many others who have thought with him: subsequent discoveries, and the recent application of conjoint sciences to the subject, enable us to speak rather positively hereon.

What he maintains stoutly is, that one part of a family, race, or kindred, of horses, will run and *win*, whilst another cannot; that *own brothers and sisters* do not turn out good runners alike, nor parents and breed, however much cared for, previous to matching the parents, or during the gesta-

tion; leaving his readers to guess that something variable ought to take place in the manner of training running-horses, according to their respective make, temper, appetite, health, and strength. By the way, much *strength* in little compass (provided this be not too little for an adequate *stretch*) is the acmé of perfection in speedy cattle, if the other qualities are also befitting; because the smaller horse has less to carry than the large one, the muscle being finer and the tendons larger in proportion to the bone in small than in large horses.

No difficulty exists in allowing that kindred *blood* signifies nothing to the individual claiming it, if he fail in the just proportions that constitutes a racer; but, the exact blood being in him, as we know filled the blood vessels of his *own brother* (let us say,) makes us pause and reflect how little reliance is to be placed in *get*, alone. This obstacle, however, is easily reconciled, if we look at the different circumstances under which the leap was obtained: whether in hand, or at grass; whether under circumstances of irritation on either part; of coolness in the female, if not dislike; of exhaustion in the horse; of repletion or of stimulant food and cordials—so common and yet so injudiciously administered by the stallion grooms. The *time* of taking the leap should also enter into our consideration; the *season* or climate, time of day, of the moon, and other fancies, having distracted the minds of the ancients, we are thence induced to allow them to possess some little influence. Above all, let

them ask, had the mare a foal at foot when she received the horse in one instance, and was she barren the year preceding the getting of the other? Had she lost a foal at suck? Had she *missed* to some other horse? Had she any bodily sickness previous to either? Some years we know to be more favourable to the production of fast horses than others; when an epidemic prevails being most adverse to *get*, and to rearing the foals. Three or four years of scarcity in runners (*i. e.* from four to seven years ago) proves that *climate*, and its *changes* of course, is greatly influential of the breed of racers in particular; and we shall see presently that to climate alone, with its peculiar productions, are we to attribute the change of shape, size, and faculties of the horse, as exhibited in the five examples given in *plate* 1. As to season, the backwardness of spring, or a wet summer, we may even *feel* in what way these circumstances may affect the young of any kind of animal. For example, four mares in one spring, produced first foals, which were all excellent runners, and indeed, the best produce of their year (1767), viz. *Pantaloon* out of Curiosity, *Marc Anthony* out of Rachel, *Conductor* out of a Snap-mare, and *Pyrrhus* out of a Snip-mare. The latter horse was not trained until four years old, and then won all he run for.

The foregoing are causes enough to account for the difference that is known to exist in the *visible powers* of own brothers, to say nothing of *blood* that is more remotely allied, nor of the *powers* of

racing that *come out* only on trial. Besides all this, we know full well, that certain qualities which have been fully recognized in a remote and renowned ancestor, has been known to *come out* in his or her offspring after several generations have passed away—as well as shape, diseases, built, powers, and also colour of the hair. One of the latest instances of this latter fact, is that of Sir John Shelley's chesnut horse *Cedric*, which also extended so far as to his *mode of going*—head down, and haunches extended, similarly to that of his ancestor *Eclipse*. Whilst a little more remote we had the case of Gohanna, whose get went blind at three or four years old, as their father had done; and a less notorious, but long-discussed case of a country stallion—a roarer, which evil quality it entailed upon its get.* How instructively did this trueness to colour (also chesnut) descend to Rubens, by Buzzard, grandsire Woodpecker out of Miss Ramsden, a chesnut mare, got by Cade, her dam allied to no less than six Eastern horses. In fine, the failure of an individual, in form or performance, ought to be no final reproach to his whole race, whatever it might be to breeding from such an objectionable sire; though we are not sure, that such an one might not produce foals possessing some of the

* This happened, notwithstanding the *opinion* of Mr. Cline, an eminent surgeon, had been obtained to the contrary; and the farmers sent their mares to *the roarer*, until the multitude of unsound colts taught them to desist. See further in Vet. Surg. p. 241. *Jerry Sneak* was another instance of a blind progeny.

finest qualities of his ancestors; as we have known the fact to have been verified in the species, though of a lower description of *stallion*, than that which now occupies our principal attention. And, truly, how could the result be otherwise, seeing how much the blood—*the fluid blood*, in its several states, has to do with the production of more or less bone, greater muscle, larger viscera, well marked tendon—in one description of horse, compared with the same parts in another? For this it is which constitutes the difference between the *race-horse* and the *waggon-horse*; the great bones of the latter having none of that hard enamel which characterises the former; nor has he that elasticity of muscle or bulk of tendon, nor the vigour, nor the courage of the higher bred cattle.

Is *the blood*, which produces those different parts of the animal, with so great variance in form and quality, the same in *every breed of horses*, let us inquire? For this it is which forms the germ of the dispute between the breeders of cattle of all countries, who trouble themselves about perfection in their breeding; and we unhesitatingly reply—most assuredly *the blood* of one description of horse is very differently composed from that fluid in another; inasmuch as the fluid (blood) that gives life and vigour to any individual horse, differs *in effect* as it may flow in bone, muscle, skin, &c.; this being an unerring rule of nature, that arteries entering bone, deposit particles that constitute *bone*; those which nourish tendons, leave the parti-

ticles that produce tendon; those which lubricate the skin, deposit skin; and the arteries that spread over *the brain*, and give it consistency, whilst it also fills the nerves which originate there with a medullary fluid, which superinduces the kindness and docility, courage and *wisdom*, we notice in the better-bred horses, and is wholly lost or impaired in ordinary ones—if these be not also imbued with great vices, doltishness, and such energies as are soon subdued, in consequence of the inferior quality of their blood. And seeing that the most obvious difference between *ordinary* cattle and *blood horses* is the largeness of tendon in the latter, (wherein consists *strength* and *pace,)* compared to the former, whilst the bone, though *smaller*, is *harder*, and, by its flatness, better adapted for speed, shall we any longer doubt that *the blood* of the speedy horse differs from the blood of those which we call slow, cart, or waggon horses? and shall we not carefully keep it pure, unimpaired, and *thorough bred?*

If, as we have shewn, the blood of every individual horse is thus capable of being directed to different parts and producing different results; is it not more demonstrably true, that two such individuals should differ in the quality of blood that is to determine towards this or that particular part of the individual animal? Whence comes the thick skin of the lower-bred cattle, the *wide* bowed limbs, heavy jowl, muscular filling up of the vertebræ of the neck in particular, the swampy heel and flat foot of the same description, when com-

pared to the direct contrary qualities of the higher-bred horses!

*Blood*, however, notwithstanding all our care in thorough breeding to preserve it uncontaminated with inferior breeds, does not *always* answer our expectations, and presents the breeder with a form and figure none would think of matching to run,—most certainly not to propagate from; whilst others fail in their performances without any assignable cause in shape or form of going—owing to want of sufficient *heart*, probably, to contracted *lungs*, or other want of conformity in size and functions of some such material *viscera*. The heart of *Eclipse*, for example, was uncommonly large, and the cavity of his chest very capacious; as happens, also, with horses of high courage of every description, but to the racer, *the wind* is quite indispensable. Still is it an indisputable fact that the Eastern horses brought to this country, though without the requisite proportions of racers themselves, and certainly defective in performance, were, nevertheless, getters of the primest fast horses the country ever saw, or, perhaps, ever will; the difference we of the present day observe in those Arabs' gets, that have been lately brought over with questionable, though pompous, genealogies—arises from the circumstance that these have not the same brood mares to operate upon they had when the Duke of Newcastle and Sir William Hope wrote the results of their experience. See *the Supplement* of the latter writer, on "Horsemanship," page 10, for further information, if more is required.

This is not exactly the place for a learned dissertation on the nature and properties of blood, but we may be allowed to say just so much as will inform the less recondite reader how it may differ in different animals, and change, according to circumstances, in the same individual.

Blood, upon being drawn and exposed to the atmosphere, divides itself into two portions—the *serum*, or watery particles, and the *crassum*, or thick red particles. Some horses have a superabundance of one of these parts or portions, another has too much of the other, which prevalence, when carried to an extreme either way, marks the presence of disease: medicines are then administered to restore the due balance, and health returns. When blood is healthful, it has a salt taste; when not so, the saline smack is lowered or entirely lost: this fact imperiously demands accordance with the repeated injunctions of William Osmer to administer the neutral salts under every form, as conducive to health, restorative thereof, and the preventive of diseases. For, if we take of the red portion of blood and wash it in the *serum*, repeating the same, we find that these red particles appear, through a microscope, of a flat shape, somewhat annular, or more like infinitely small glass beads, but having the perforation in the middle filled with a substance approaching to solidness, always gravitating towards the lower part as the particles under examination roll along the plane of the microscope. If the second washing of this red part of the blood be performed with the *serum* of human blood, the

red particles divide readily; if, on the contrary, pure water be used, they become globular, with the apparent perforation covered or closed up, whilst the portion so treated soon shews signs of putrescence; but divide this into two or more smaller portions, and put any neutral salt into one vessel, this will have the effect not only of preventing putrefaction, but, also, restores the annular or bead-like shape of the red particles. No sensible difference was found in making the experiments, whether *the salt* were the common marine salt, salt-petre (nitre), or Epsom salts. Hence the mode of operating of *neutral salt*, so often recommended, is accounted for satisfactorily, as restoring the right healthy shape and functions of this portion of the blood.

Again, if blood be drawn and a solution of salt mixed in, coagulation does not take place; *potass* has the same effect in a greater degree—rendering the whole more fluid than it was naturally—thus accounting for the manner of operating of soap, which we use largely as the vehicle of aloes, sometimes turning aside this powerful purgative and carrying it off by the urine. In fine, the result of these investigations has been to develope the whole theory and practice of medicine that depends on the exhibition of the salts in any of their numerous preparations, internal and external; and this very alteration in *the shape* of the red particles of the vital fluid, heretofore constantly termed *globules*, according to the presence or absence of the saline principle, is good proof how much the blood of every individual

animal must differ from every other, which will be in proportion to the quantity and quality of the saline particles in which those so-called *globules* of life do float about and perform their all-important function of giving health, preserving life, and imparting superior vigour, courage, and animation to the animal in which that quality is happily blended. In some horses this shall be found nearer to perfection than in others; and these are the racers, the fleet, the lasting, the high-couraged, well-shaped blood horses derived from *an Arab origin*; this being the parent stock of *the horse*, however it may have degenerated in one respect, or has been improved in size, in other countries. Cultivation does this, and, in England, perfection has been obtained at several periods, and as often has been lost a while or depreciated, by reason of the *principles of crossing* not being sufficiently studied by breeders, who do not reflect, that too much Arab blood, without the due admixture of English, detracts from size and, of course, the stretch, and gives more courage than capability.

Further, respecting the difference in the blood of various animals, it had been remarked (1823) in the Essays which subsequently formed book the first of *Veterinary Surgery*, that the odour arising from the slaughter of their *own kind* threw the survivors into paroxysms that evinced consciousness of coming danger. Since then, a good number of experiments go to prove, that this odour partakes of the nature of the perspiration mostly, that of the

females being of a lower degree than their respective males; but that, in *the circulation*, this odour being retained, it is necessary to mix the blood with a third or more of sulphuric acid, and submitting the same to a boiling heat, whereby the perspirable scent is evolved, and we ascertain whether it be that of man, horse, hog, sheep, &c. Facts these which may be rendered available in medical jurisprudence; but which is more to the present purpose to observe, that the odour thrown off by the blood of a high bred horse, treated with the acid, was of a wild sweetness (like certain *game)* when compared to that of a heavy gelding, which was found more pungent and earthy.

Come we now to say, in few words, what is that blood we are in search of, and which is indispensably requisite to *our* breeding purposes, when employed in *due proportion*. Much recent information on this topic having reached us, through the published travellers, and some that is peculiar by private channels, our statement of the countries whence come *the speedy horse* will be found somewhat different from preceding writers; inasmuch as they followed the track of imperfect travellers from the time of Pococke and Murtardi, the son of Gafife, down to the French invasion of Egypt, who could not, until that unprincipled event, pass beyond a certain line, nor even proceed therein with safety.

The terms *Arab* and *Arabian blood* has been applied by us to all that race which is derived immediately from the original stock, bred in the de-

sert that bears this name, and is very extensive. But the only true *Arab* to be depended upon is a native of that track which is bounded by the Lower Nile or the Red Sea, and the Persian Gulf; including Syria on the Mediterranean side, and Mocha with Muscat on the South Eastern side. Next to these lies Persia, where they cultivate a larger horse, and still farther to the East, passing the Indus River, is the English Empire of Hindustan. Here, within a score of years, the East-India Company's servants and military have seriously set about cultivating the pure breed of Arab horse upon a large scale, as well as certain crosses with their English stock. How they have succeeded, as well as a solution of what is requisite to complete success, is worth inquiry; but our business at present is with the different breeds whence our own incomparable *English horse* is derived, and to clear up some conflicting ideas as to how and what are pure Arabian blood, and what is otherwise.

Already we have shewn, that our stud-bred, thorough-bred, or blood horse, is differently constituted in bone, shape, muscle, tendon, from the cart-horse breed; and this, primarily, because his *blood* differs, and, therefore, the term "blood-horse," as applied to a horse of the true blood, is rightly bestowed, to maintain a distinction. It differed by reason of the genial climate in which the horse was bred; fineness of form followed the due cultivation of the breed, and care in rearing the young. As the breed diverged into other countries, the chances of dete-

rioration increased, and in some were certain; crossing the breed became inevitable, as the original stock went farther and farther from home, or the same animals passed through hands less instructed in the keeping, or bringing the individuals to maturity, and to a profitable market.

*The Barb* was the first or most obvious of these removes from the parent stock; a designation that was applied to those high-bred horses which came into Europe from the coast of *Barbary*;* many of those having been foaled in Egypt, or very little to the westward of it, and when coming from the mountainous districts that divide the last named country from those African states, the breed ran larger than ordinary, and acquired the term "mountain barbs." The *barb* is ordinarily a small horse—mere galloway; whilst those Arab gets which are cultivated in the hilly country of Dongola (at the extreme east of Africa) run very large. From the geographical position of those states on the south side of the Mediterranean, a space of 1200 miles, from Morocco to Algiers, to Tunis and Tripoli, it will be seen that in consequence of intercourse with the opposite coasts of Italy and Spain, their horses would find an easy transit across, as they did in time of peace; whence we had the once boasted *Neapolitan horse*; formerly much lauded, but now no more a distinct race, nor prizeable.

* Of these our ancestors imported several, viz. Dodsworth, Greyhound, with his sire (Chillaby) and dam (Moonah), Curwen's Bay Barb, the Thoulouse Barb, the Compton Barb.

*The Spanish* is a fine stately horse, mostly black, a high goer, and of good size for war; but, on those accounts, is *no racer*, and is lately neglected, like everything else in that unhappy country. The earliest cross of foreign speedy horse with the English was from the Spanish, in the eleventh century, and Shropshire, where this took place, was long celebrated for horses of superior speed.

*The Turkish horse*, of which race several stallions found their way into England and propagated, formerly, is *the Arabian* proper, transmitted from the *sheiks*, or governors of provinces, annually to their master, the Grand Turk. But as this seignoral command to the subordinates extended not only to the Egyptian, Bedouin, or Desert tribes of Arab breeders, but included many other enslaved nations, the Turkish breeding studs would necessarily, and without much exertion, improve the size of their crosses; and they did, for three hundred years, send into the field astonishing fine bodies of cavalry.*

* This breed has passed away, however, into the hands of the Russian, who is little likely to keep up the cultivation that even the Turk bestowed upon his horses. At *Kirkilissa* and the neighbourhood of *Adrianople*, where the sultan's studs were placed, they had a man appointed to every horse, who took his charge out to graze daily on the most beautiful verdure the imagination can conceive; and there might be seen several hundreds of those turbaned grooms sitting each with the string in his hand which tethered the horse to one spot until he had cleared the herbage from it, when the practice was to remove to another spot, and serve that after the same fashion. A portable tent afforded shelter to the groom, and the horse too, when the heat became oppressive.

It follows that the Turks, like the English, have horses of various sizes, shapes, and qualities, according to the countries whence derived, or as the crosses may have been managed; for 'tis a well-established rule of nature, that *the stallion* imparts his *form*, courage, beauty, and colour (*vide* p. 170) to his get, whilst the mare contributes most to constitution and size; whence we infer, with reason, that if the produce be required stout and robust, the mare must be so too, and roomy withal; she may likewise be a little lower bred than the stallion; for, when Barb horses cover Barb mares, these throw galloway foals, of neither height nor stoutness, though with the usual compactness of fibre in muscle and ligament, heart and skin, bone and hoof; for this is the property which constitutes his strength without adding to his *bulk*. The whole race of Arabia, however, is destitute of the stretch we put into the English racer by the more happy cross alluded to, followed by appropriate training, *i.e.* quite enough, not too much, but judiciously severe.*

The Turkey-bred horses carry a great proportion of white, though they come of all other colours, and are of all paces as they bear relation to sire and dam; nor are the young stinted in their growth

* Of Turkish horses, our ancestors imported the following, with a view to improve their breed:—The Helmsley Turk, Place's White Turk, Lister Turk, Byerly Turk, D'Arcy White Turk, D'Arcy's Yellow Turk, Sellaby, Honywood Arabian, Belgrade Turk.

for want of sufficient *nourriture*, as frequently happens to the other Eastern country horses. By the way, "*Eastern*" horse is the best general designation we can confer on the whole race of *Arabia* and their immediate descendants, the *Turkey* on one side, and the *Barbary* on the other; and this is the way in which we shall speak of those three families, branches, or subdivided races in their collective capacity, when we come to discuss the subject further in the next chapter.

Turkish horses of state, that are used upon high occasions, as might be expected from the proud carriage of the Moslems, are tall, stately, and well fitted for processions and displaying the rider; but the fleet horses differ very little from the Arab branch, other than what superior care of the mares during the gestation, attention to the foals, and good grooming can confer, and these are all in all: the Arab foals travel much from their earliest days after their dams, the fillies in particular, whereas the Turkish young ones go no where but gambolling about the mares at grass; the consequence of all this is that *the Turk* shows most spirit, has more life in him, and appears better filled out than those of the elder family of the *Desert*, or the collateral branch, *the African* of the Barbary coast.

*Hungary* and *Poland* derived much improvement in their breed of horses from the Turkish; as did the intermediate countries of Moldavia, Bessarabia, &c. and the Bulgarians are renowned couriers. *Germany*, too, in her long wars for the

disputed territories just named, obtained occasionally, by capture or otherwise, those crosses which enabled the German cavalry to perform amazing feats upon their opponents in that arm of warfare. Later experience, however, in which they came in contact with British horse, and the latest, in which the two varieties acted together, the German horse was found miserably in the rear of our own; thus proving that the continental breeders have retrograded, or that our islanders have advanced a few steps towards perfection in this particular. The *Hanoverian horse* is evidently derived from the *White Turkish*, devolved into cream colour by cultivation;* the Electors having been commanders of Imperial horse, through several generations, against the Turks; therefore did they take for armorial bearing *a White horse passant*, as *the pretension* of the first family of *Guelph*, and *crest* of all the branches. But these last have the irides of a pale reddish grey, the lashes whitish, and, indeed, all the hair, knees, tail, and mane the same as the coat; and if it be true that all animals, which are far removed, by crossing, from the parent stock, lose the dark pigment of the eye in the ratio that they are so removed, then are these last the *caste* we should least prefer for any quality which we admire in the Eastern horse, (*i. e.* Arab, Barb, Turk.) Next in this unestimable respect

* Two horses of this variety were foaled at Hampton-court in 1825-6, of very great stature, having reached to 17 and 18 hands the last grass.

stand those other continental families of horses previously mentioned, as well as the *French* cavalry horse, manege, and road horse: *the racers* of the last-mentioned country are exceptions, but are neither numerous or well understood there.

*The English horse.* When foreigners speak nationally of the English horse of the present day, their ideas are directed towards the army, and the description of horse which forms the remounts of our heavy regiments in particular. *We*, however, look to the higher description, whence those enviable animals are immediately derived; and, ever in search of speedy achievements, pique ourselves mostly upon the thorough-bred race-horse, which we regard as the highest perfection of this country's breed; and we are only borne out in this preference of show to utility, of display to actual service of the most vital nature, by the fact that, without the thorough-bred speedy parent, the half-bred progeny would fail in some material requisite for war or other, of bone, of strength, or courage—in truth, *no racer no hunter*.*

* Some attempts of a serious nature appear to have been undertaken by the foreign breeders, even whilst this page is under the pen; in as much as we hear of no less than three hundred brood mares being purchased, in the north, to go abroad in a body, as we may say. But no fear of complete rivalry need haunt the truly British soul, for the generality of continental breeders (so far as we have heard and seen) seem entirely unaware that the best crosses, although managed aright, require much after-care to bring forward the foal in right form to breed from ultimately; whence will be seen the necessity

But, previously to the general introduction of blood-horses into this country, in the *time* of Charles II., we had a breed of horses, though not so fleet, yet serving every purpose of war, and quite capable of repressing any enemy we might have to cope with in that arm of warfare; which breed, of course, would acquire the character of being the *old English horse*, improved in a very finite degree by the limited introduction, spoken of higher up, of second-rate foreign blood. See page 180. This original slug, then, was reformed by the *foreign blood* we call Eastern, which circulates now through all the cattle of the kingdom, except the *wild horses* of Exmoor, of the New Forest, and of Scotland; and, going off by collateral branches, is perceptible, in whatever small degree, in almost every individual of any pretensions we meet with; but in none so perfectly, not in any so serviceably, as in the one we denominate *the Hunter*, and its varieties of the road and harness. How the cross is to take place, that is to throw such a horse, has been spoken of before; its *figure*, as a cock-tail gelding, lasting at a long burst over a heavy country, and good at a five-feet fence, is delineated in the portrait, fig. 4, plate 1. That modern hunters may be highflyers, long on the legs, and fast ones, is no proof that those who ride twelve stone upwards, after a slow chase, upon

they will lie under of having constant recourse to similar supplies—a favour they cannot reckon upon when it will be most desirable—namely, *in war*.

a scent, should not stand in need of "the English horse," *par excellence*, that is so delineated in our frontispiece.

*Flemish horses*, as we term all those which come to us from the Netherlands, or low countries of the French, Dutch, and Low German provinces, are mostly adapted to carriages and heavy draught, and are adduced here principally to show what alterations may be brought about by choosing certain situations for breeding in. In our own island, the same humid climate prevails all along its eastern coast, as they sustain in the opposite countries of the continent, which have borne the uncheering epithet of "low," (or *pays bas*;) and the same breed of horses are produced in both, owing to the mares becoming roomy and heavy, with enormous viscera and soft flat hoofs, in one or two generations, whatever their breed may have been originally. Derived from the Spanish horse, we find the lighter breed, or coach-horses, come from the interior, where the up-lands are in a high state of culture, as they are towards Cologne and Westphalia. It is worthy of remark, that all swampy-bred females (including our own biped race) have the sort of large umbilical cavity as that of the mares which produce those large foals in the low countries; and it was to this species of *out of form* the licentious Henry VIII. referred, when the daughter of a monarch of those parts was imported here as his betrothed wife—"What have "you brought me?" demanded the enraged volup-

tuary, "a Flanders mare, I swear!" and she was re-shipped, we are told by historians, *re infesta.* From those circumstances, breeders will learn to avoid low, damp, or confined situations for their brood-mares, unless they seek for big bone and muscle at the expense of speed and compactness. A washy, sloppy mode of keeping their horses, and brood-mares among the rest, with a thriftless denial of oats, is the besetting sin of the Netherlands' breeders and horse-keepers of every grade.

*Of shape,* or *conformation.* Something has been said on the shape and conformation, or agreement of the several parts with each other, in the first chapter of my Treatise on the Diseases of *the Horse;* which I undertook with a view principally to show how the health might be affected when this agreement or proportion did not exist, as the animal might be put to work, beyond his powers, as usually happens in training, in farm-work, &c. Regard was had, in that proposition, to his capabilities, and what a horse of this or that make, shape, built, or conformation could undertake and perform well; and also what he could not perform without excessive fatigue and disorder, when wanting those *just proportions in his form* which I ventured to term *true conformation.* Many of the remarks made in that chapter would have been more reservedly advanced, had I seen the work of *William Osmer* previously to their being written, which was about the year 1820; but, as

he confines himself to the breeding of *race-horses* from the *original stock*, generally termed *Arabian*, whereby pace and action are infused into our bred horses, and, in process of time, descends to every other description, I shall find no occasion to meddle with the *sense* of his Treatise, though I purpose to reduce greatly the redundance of his *words*, without reference to what I had previously advanced, or holding myself responsible for his apparent deviations from his point.

What *Osmer* means to inculcate is, the little reliance that is to be placed in the simple circumstance of affinity by blood to *eastern horses* we indifferently term Arab, Turk, Barb, when unconnected with the true shape, make, or built, otherwise termed the due conformation and agreement of the parts with each other, so as to constitute *a fast horse*. My Treatise went, also, to inquire what would constitute a *lasting horse;* and, in "The Grooms' Oracle," we undertook to teach how pace, stretch, and length of performance might be "put into a horse," by *management*, or training him into condition gradually. *Osmer* allows, at setting out, what, indeed, no one can deny, that our best bred horses derive those qualities from the Arab horses introduced here from time to time from the Mediterranean, for it is but lately that any were brought from that side of Arabia which borders on the *East Indies;* and he labours hard to show forth what we since learn from scores of

intelligent travellers in Egypt, the cultivated parts of Africa, and thence across the immense tracts of land called *Arabia*—that the inhabitants do not part with their best bred cattle, nor their mares of either kind. They do not absolutely *refuse to sell*, but treat such a request as downright idiotcy; a rule of conduct quite at variance with our countrymen, of *the north particularly*, who imagine every horse is for sale, and coolly ask 'how much will you take' of the first-rate gentleman in the kingdom? "This fool wants to buy my *Kirklani* from under me!" exclaimed an Arab in the streets of Cairo, in reply to an importunate would-be purchaser of a thorough-bred mare, which are so described by the breeders of Egypt. "Why, she saved my life, in a chase of fourscore miles,* without stopping!" he explained, upon being further pressed to name a sum. "Content yourself with a *Knidischi*, or an *Attiki*," he added; which inferior kinds may be purchased there for about four hundred pounds the first, and the last-mentioned for half that sum; and of these two descriptions of horses are those which usually come to this country, to defeat our hopes and almost stagger our belief in the prowess and feats of former Arab gets.]

End of the *Introduction*.

* This appears to be a favourite day's journey with them, or it may be a phrase for a *round number*, like our long fox-chase, or other unmeasured runs; for we find the same length of performance mentioned by several travellers.

## CHAP. II.

### *No innate Qualities in the Horses which Sportsmen call Blood.*

OF BREEDING SPEEDY HORSES. My opinion on the subject of the qualities of blood has long been that the origin of all men, as well as that of *all animals of the same species*, was the same in the beginning of time, and that it is *climate* chiefly, which produces the difference we perceive in them. (See page 153.) [But *cultivation*, or crossing the breeds judiciously, does as much more, and *training into condition* is the finish.

Amongst the horses produced in different countries, we may perceive a great difference in their performance, (*i. e.* in *form of going* and *pace*,) and I think, in their *figure* also. This difference of performauce has generally been imputed to a term called "blood," which the sportsmen say is a certain innate or *preternatural virtue*, peculiarly belonging to some breeds of horses, and not to others; and it being a proverb amongst them that blood horses of all *shapes* run, they would be understood to mean, and do, on some occasions, assert, with the firmest belief, that this virtue or excellence is quite independent of *matter* and of the *formation of parts*, and then, of course it must be altogether undistinguishable to the eye therefore, whenever I shall have occasion to men

tion the word *blood*, I would have it understood * as something independent of form and matter, just in this same light as they always use it.

But my opinion on this subject differing from the *generality* of mankind, I shall take leave to be a little diffuse in maintaining it through a somewhat long, though not unentertaining *dissertation*. I would not, however, be understood to attempt to persuade any one into a belief that *all horses* of fine shape will make good racers, let their breed, or sort, be whatever it may. Let them not so deceive themselves, I beg, since my meaning is very different, as may be ascertained by turning, at once, to the first pages of Chapter the *Third*; where, and throughout, my design is to show, that the swiftness and the ability of perseverance, we find belonging to some of those Arabian horses and their descendants, depend, alone, on their particular formation and elegance of parts, *which being*, as I observed, *visible to the eye*, I did conclude the excellence of all horses to be merely mechanical, or dependent on the construction of the several parts. [But later investigation having convinced us that the structure of parts not only differ to the eye, in the several

* He sets out with asserting *as understood* what is a very great blunder, as no one ever did think *blood horses* were distinguishable but by their *form, built*, or quality of their *substance matter*; notwithstanding, a blood horse, of the *Arab get*, though he may not be well-proportioned himself, always begets, out of English mares, large, well-formed, fine foals, whose performances beat their sires.—EDIT.

breeds, but that the texture or fibre, which constitutes the animals, differs also, great allowance must be made for this circumstance as the reader follows the writer through the remainder of his dissertation. See above—page 166, &c.; and, indeed, the whole of the *Introduction.*

*Blood horses only can run.*—As nothing is more certain, than that no horses but those of blood can race in our days, I have been long time endeavouring to find the true reason of this singular fact, and cannot any other way account for it, but by supposing that this quality of superior strength and elegance of form which those east-country horses possess, might superinduce the quality of swiftness. This consideration naturally produced another, which is, that *the blood* of all horses may be merely ideal; and, if so, I conclude it to be a word of no meaning. But, before I advance this hypothesis further, and that I may not be found guilty of treason against the received laws of jockeyship, I here lay it down as an acknowledged truth, that no horses but such as come from Eastern countries *can race*; and, in this opinion, every man of experience and observation, I apprehend, will join me. Therefore, whilst discussing this point, I beg leave, when speaking of these horses, to change the word HIGH-BRED, and in its room substitute the word *Eastern*, or of *Eastern extraction.* For, it may appear, that the excellence we find in these horses depends totally on the due formation of their parts, and not in their blood; and that all the particular distinctions

and fashions thereof depend also on the whim and caprice of mankind.

For *example*, if we take a horse bred for the cart, and such a one as we call *a hunter*, and a horse of *Eastern extraction*, and set them together, the meanest judge can easily point out the best runner, from the texture, elegance, and symmetry of its parts, without making any appeal to blood. Allow but a difference in the texture, elegance, and symmetry of parts in different horses, whose extraction is from the East country, this principle will be clearly proved, and the word HIGH-BRED of no use, but to puzzle and lead us astray. Thus, every man's daily observation should teach him, if he be not lost in this imaginary error of *particular blood*, that, generally speaking, such horses as have the finest texture, greatest elegance of shape, and truest proportion, are the best racers, let their blood be of what kind it will—always supposing it to be *Eastern*. If I were asked what is *beauty*, I should say *due proportion*; if I were asked what is *strength*, I should again reply *proportion*, also: but I would not be understood to mean that this strength and beauty alone will constitute a racer; as we shall find a proper *length*, also, will be wanted for the sake of stretch; and that, moreover, the very constituent parts of Eastern horses differ as much from all others, as do their *performances*. But this, however, will be found a truth, that in all horses of every kind, whether designed to draw or ride, this principle of proportion will determine the principle

of goodness in *action*; at least to that part of it which we call *bottom*. On the other hand, our daily observation will show us, that no weak, loose, disproportioned horse, let his blood be what it may, ever yet was a *prime racer*. If it be objected, that many a *plain* ugly horse has turned out a good racer; I answer, that all goodness is comparative; and that such horses as have been *winners of plates* about the country, may be improperly called good racers, when compared to some others. I can even allow a *very plain horse* may be a prime racer, without giving up the least point of this system: for instance, if we suppose a horse with a large head and long ears, (like the *Godolphin Arabian*,*) a low mean forehand, flat-sided, and goose-rumped, this, I guess, will be allowed a plain ugly horse; but yet if such a horse be strong, and justly made in those parts which are immediately conducive to action; if his *shoulders incline well backwards*, his legs and joints be in proportion, his carcase strong and deep, his *thighs well let down*, we shall find he may be a very good racer, even when tried by such principles of mechanics, without appealing to his *blood* for any part of his goodness. We are taught

* Died in 1753, at twenty-nine years of age. Notwithstanding what is said of him, and with the addition that he never *performed* any thing, yet there has not been a turf horse in England, of any pretensions to racing, for the last forty years, which does not carry back his pedigree, by sire or dam, to this undoubted Arabian: he covered but little until full aged, nor then many mares until thirteen years old; hence the goodness of his get, in some measure.—EDIT.

by this doctrine of mechanics, that the power applied to any body must be adequate to the weight of that body, otherwise, such power will be deficient for the action we require; and there is no man but knows a cable or cord of three inches diameter is not equal in strength to a cord of four inches diameter. [Unless made of different qualities of hemp, as are the sinews of horses of very different *fabric*, as we may say.] So that, if it should be asked why a handsome *coach-horse*, with as much beauty, length, and proportion as an *East-country horse*, will not act with the same velocity and perseverance, nothing can be more easily answered, without appealing to blood; because we shall find the powers of action in an Eastern horse much more forcible, and more adequate to carrying the weight of his body, than the powers of action in a coach-horse; for, whoever has been curious enough to examine the mechanism of different horses by dissection, will find the tendon of the leg in an Eastern horse is much larger than in any other description of horse, whose leg is otherwise of the same dimensions; and, as the external texture of an Eastern horse is much finer than that of any other, so the Eastern horse must necessarily have the greatest strength and perseverance in acting, because the muscular power of two horses (whose dimensions are the same) will be the greatest in that horse whose texture is the finest, and wrapped up in the least compass.

*Anatomy* of the different breeds casts some light on those points; so let us inquire, what information we can gather from this *science*, concerning the laws of motion. *First.*—It teaches us, that the force and power of muscle consists in the *number of fibres* of which it is composed; and that the velocity and motion of a muscle consists in the length and extent of its fibres. Let us next compare this doctrine with the language of the jockey, who tells us, "if a horse has not length, he will be slow;" and, if "made *too slender*, he will not be able to bring his weight through." Does not the observation of the jockey exactly correspond with this anatomical doctrine?

*Secondly.*—If we inquire into *the motion* of horses, we shall find the bones are the *levers of the body*, and the tendons and muscles (which are nearly one and the same thing) are the *powers of acting* applied to these levers. Now, when we consider *a half-bred* horse running one mile or more, with the same speed as a horse of *Eastern extraction*, we do not impute that equality of velocity to any innate quality in the half-bred horse, because we can account for it by external causes: that is, by an equality of the length and extent of his levers and tendons. And when we take into consideration, that a half-bred horse shall run one mile, or more, with the same velocity as the other, and then give it up like a cur, what shall we do? shall we say the foreigner beats him by *his* superior

blood, or by the force and power of his tendons? or by his bottom, and the consciousness of speedy powers which heartens him up to further exertion? *Speed* is sometimes lost to individuals, at others to entire families, awhile; for how many instances have we on record, of different horses beating each other alternately over different sorts of ground, and even over the same course?* How often do we see short, close, compact horses beating others of a more lengthened shape, over high and hilly courses, as well as deep and slippery ground; in the latter of which, *the blood-horse*, however low on his legs, is esteemed much better at getting through his work, and whose performances in general are achieved in better *style*. In the next place, let me ask, how comes it to pass that horses of a more lengthened shape have a superiority over horses of a shorter make upon level and flat courses? Is this effected by the difference of their mechanical powers, or is it effected by the blood? If by the latter, then this *blood* is not general, but partial

* *Sam Chifney's* five pounds' pamphlet exculpation of his winning and losing with *Escape*, in 1791, and his adduction of many other examples of the like occurrences, is accurately illustrative of horses *training off*, through mismanagement, or otherwise. His vanity, though great, was in him excusable, as it is unsublime; but he is borne out in the reprobation he bestows upon the underling servants of an illustrious and kind master, by some recent occurrences regarding the abuse of two of His Majesty's horses, viz. *Fleur-de-lis* and *Colonel*, which were rendered unfit for their work:—The first, by cupidity; and the second, by licentiousness.—EDIT.

only, which no reasoning man will be absurd enough to insist upon. But I much fear our distinctions of good and bad blood are determined with great partiality; for every jockey has his particular favourite blood, of which he judges from *events*, success, or prejudice. Else, how comes it to pass, that we see the different opinions and fashions regarding blood varying daily? nay, we see the very same blood undergoing the same fate; this year rejected, the next in the highest esteem; or this year in high repute, the next held as nothing. How many changes, for example, has the blood of *Childers* undergone! once the best, then the worst, now good again! Where are the descendants of *Bay Bolton*, that once were the terror of their antagonists? Did these prevail by the superiority of their blood, or because their *fabric*, and consequently their *powers*, were superior to the other horses of their time? If any one ask why *Danby Cade* was not as good a racer as any in the kingdom, the jockey could not impute this defect to his blood; but if it should be imputed to his want of proportion, surely it might be held for a true and satisfactory reason. How many revolutions of fame and credit, have all sportsmen observed in these three HIGH-BRED families,* in whose vessels flowed the blood of Darley's Arabian, Leedes's Arabian,

* Bay Bolton died in 1736—was a good runner; Childers, also bay, with black legs, in 1741—he *flew* quicker than wind. Danby Cade, the son of Cade, though a grandson of the Godolphin Arab, turned out an ill-gotten imp, out of Soreheels, in 1747.

the Barb mares, Royal mares, Bay Barb, Wastell's Turk, Yellow Turk, and the Godolphin?

Numberless are the examples of this kind which might be quoted; but to account for this, one says, the blood is worn out for want of a fresh cross; another asserts, that after having been long in this climate, the blood degenerates; but these reasons cannot be true, because we see the offspring of all crosses, and of the most ancient families, occasionally triumphant over the sons of the very latest comers. The error, then, will not be found in the blood, or in improper crossing of families; but the defect is produced by the erroneous judgement of mankind, in putting together the male and female with inconsistent *shapes*; and whilst we are lost in the mazes of an imaginary good, the laws of nature stand revealed; and we, by paying proper attention thereto, and employing our judgement therein, might wipe this *ignis fatuus* from the mind, and fix the truth on a sure foundation. Our observation shews us, that, on the one hand, we may breed horses of Eastern extraction too delicate, and too slight for this or any other strong work; and on the other hand, so coarse and clumsy, as to be fitter for the cart than the race-course. Shall we then wonder, that neither of these extremes can race? or shall we doubt that *degrees of imperfect conformation* will produce degrees of imperfection in *racing?* and when we find such points deficient, shall we ridiculously impute it to a degeneracy of that blood, which once was in the highest esteem,

or to the want of judgement in him who did not properly adapt the shapes of their progenitors to each other?

OF SYMMETRY, *or shape.*—Shall we confess this, or is the fault in nature? For, although most philosophers agree, that innate principles do not exist in the mind, yet we know for certain, that in the brute creation, whose food is plain and simple, (unlike that of luxurious man,) the laws of nature are, generally speaking, invariable and determined. If it should be asked, why the get of the *Godolphin Arabian* were superior to most horses of their time, I answer, because he had great power and *symmetry of parts* (head excepted), and a propriety of length greatly superior to all other horses of the same diameter of carcase, that have been lately seen in this kingdom. This I assert, not on my own judgement alone, but on the united opinions of those who, I believe, understand horses much better than I pretend to do: and it is very probable, this horse, if he had not been confined to particular persons' mares, might have begot better racers than any he did. On the contrary, I have heard it urged in regard to *his blood*, that he was a very mean horse in figure, and that he was kept as a teazer to Hobgoblin, some years before he covered, when he got *Lath* out of Roxana, in 1731. What does all this prove? I think nothing more, than that his first owner did not understand rightly this kind of east-country horse, and that different men differed in their opinions of the horse's conformation.

If any man who doubts this excellence to reside in the blood, should ask how it came to pass that we often see two full brothers, one of which is a good racer, the other indifferent, or perhaps *bad*, I know of but two answers that can be given; we must either allow this excellence of the blood to be partial, or else we must say, that by putting together a horse and a mare, different in their shapes, a fœtus may be produced of a happy form at one time, and at another time the fœtus partaking more or less of the shape of either, may not be so happily formed. Which shall we do? shall we impute this difference of goodness in the two brothers, to the difference of their mechanism? or shall we say this perfection of the blood is partial? If the latter, then we must own that blood is not to be relied on, but that the system of it, and whatever is built on that foundation, is precarious and uncertain, and therefore falls to the ground of its own accord. While this continues to be the rule of breeding, I mean of putting male and female together, with no consideration but that of blood and a proper cross, it is no wonder so few good racers are produced, no wonder mankind are disappointed in their pleasures and expectations; for this prejudice does not only extend to blood, but even to the very names of the breeders, and the county where the horses are bred, though it is beyond all doubt, that *the north* claims the preference of all other places in this kingdom; but that preference is allowed only from the multiplicity of mares and stallions in those

parts, and, consequently, from the number of *racers* necessarily bred there.

I would not be thought in this to prefer my own *opinion of shape and make* to the *known goodness* of any given stallion, but would prefer the latter before the opinion of all mankind. What then? it is not every horse which has been a good racer that will get good colts: some have suffered too much in their constitution by hard and continued labour, whilst others have some natural infirmity that may, probably, be entailed on their generation; [others, again, are too much stimulated, and a few are put to too many mares.—*Mind all this.*

*Of the brood mare.*—The most material thing in breeding all animals, but to which we pay the least regard, either in the race of men or of horses, is the choice of the female, who not only joins in the *production of the fœtus*, but in the *formation* of it also. And that the female has even the greatest share in the production of the *fœtus*, will be proved by this experiment: if you take a dunghill cock and put him to a game hen, and also put a brother of that game hen to a sister of the dunghill cock, those chickens bred from the game hen will be found much superior to those chickens bred from the dunghill hen.

We pay too little regard to the conformation or shape of *the female*, or of the horse to which we put her, but generally choose some particular horse for the sake of the cross, or because he is *called* "an Arabian;" whereas, in fact, *every stallion*

will not be suited to *every mare*, and will refuse her; but the man who has a fine female, and judgement enough to adapt her shapes with propriety to a fine male, will always breed the best racer, let the sort of blood be what it may, always supposing it to be of genuine Eastern extraction. The truth of this will be confirmed by observation, which shows us, that horses do race, and do not race, of all families and all crosses. We find, also, that *affinity of blood* in the brute creation, if not continued too long in the same channel, is no impediment to the perfection of the animal; for, experience teaches us, it will hold good many years, particularly in the breed of *game cocks*, which show so much prowess and bottom under the most appalling difficulties as are equalled only by the horse. For example, we know that *Childers*, which was, perhaps, the best racer ever bred in this kingdom, had in his veins a consanguinity of *blood*; his pedigree informing us, that his great grandam was got by Spanker, the dam of which mare was also the dam of the said Spanker.*

If we inquire a little farther into the different species of the creation, we shall find this principle concerning perfection of shape still more verified. Amongst *game cocks*, again, we find, that wheresoever power and propriety of shape prevails most, that side (condition alike) generally prevails in bat-

*Flying Childers (1715), by Darley's Arabian—Betty Leedes, by Careless—Sister to Leedes, by Leedes's Arabian—Spanker, Barb mare, which was also dam of Spanker.—EDIT.

tle. We shall find, also, that one cock perfectly made, will beat two or three of his own brothers if imperfectly made, or not handsome. If any man should boast of the *blood of his cocks*, and say that the uncommon virtue of this animal, which we call his *game*, is innate, I answer Not so; for that all principles, and all ideas, arise from sensation and reflection, and are, therefore, *acquired.*

*Arabians.*—The jockeys have an expression which, if their system be true, is the most senseless imaginable: I have heard it often said, such a horse "has speed enough in him, if his heart do but lie in the right place." In answer to this, let us consider a horse as a piece of animated machinery (for it is, in reality, no other); let us set this piece of machinery a-going, and strain the works of it by velocity; if the works are not analagous to each other, will not the weakest part give way? and, when that happens, will not the whole be out of tune, nay, *ruined?* But, if we suppose a piece of machinery, whose works bear due proportion and analogy to each other, these will undergo a greater stress, will act with greater force, more regularity, and continuance of time. If it be objected, that those Eastern horses seldom race well themselves, and, therefore, it must be in the blood, I think nothing more easily answered; for, we seldom see any of those horses sent us from *Arabia*, but what are more or less disproportioned, crooked, and out of shape in some part or other; and, when we see this deformity of shape, can we any longer wonder at

their inability for racing? Add to this, many of them are, perhaps, full-aged before they arrive in this kingdom; whereas, it is generally understood, that a proper training from his youth upwards is necessary to form a good racer. [Thus, this objection answers itself.

But, be this as it may, let us consider how it happens, that these awkward, cross-shaped, disproportioned horses, seemingly contrary to the laws of nature, beget race-horses of much finer shapes than themselves, as we daily see produced in this kingdom. And here I acknowledge myself to have been long at a loss how to account for this seeming difficulty; though this was recently obviated by the arrival of a gentleman of undoubted veracity from the East, whose taste and judgement in horses is inferior to no man's.

He says, that having spent a considerable part of his life at *Scanderoon* and *Aleppo*, he frequently made excursions amongst the Arabs, who are subjects of the Grand Seignor's, being excited by curiosity, as well as to gratify his pleasures. These Arabs (which are called the *Bedouin)* encamp on the deserts together in large numbers, and with them moves all their household. He says, that these people keep numbers of greyhounds, for the sake of coursing the game and procuring them subsistence: and, that he has often been with parties for the purpose of *coursing* amongst those people, and continued with them occasionally for a considerable space of time: that by them you are

furnished with dogs and horses, for the use of which you give them a reward. He says, they live all together; men, horses, dogs, colts, women, and children: that these colts, having no green herbage to feed upon when taken from the mare, are brought up by hand, and live as the children do; and that the older horses have no other food than straw and chopped barley, which these Arabs procure from the villages most adjacent to their encampments. The colts, my informant says, run about with their dams on all expeditions, till weaned; for that it is the custom of the Arabs to ride their *mares*, as thinking them the fleetest, and *not their horses*;* whence we may infer the fact, that the mare foals are best fed and taken care of. That, if you ask one of these banditti to sell his mare, his answer is, that on her speed depends his own head. He says, also, the male foals are so little regarded, that when grown up it is difficult to find a horse of any tolerable size and shape amongst them.

Seeing that such is the case, shall we be any longer at a loss to account for the deformity of an animal, which, from its infancy, is neglected, starved, and dried up, for want of juices? or, shall we wonder that his offspring, produced in a land of plenty (as *England* is) of whom the greatest care

* Principally because they do not *neigh* as the horse does, and betray their riders to the *enemy*; a misfortune that is prevented among other Scythian marauders by fastening the horses' tongues.—EDIT.

is taken, who is defended from the extremes of heat and cold, whose food is never limited, and whose vessels are filled with the juices of the sweetest herbage, shall we wonder, I say, that his offspring, *so brought up*, should acquire a more perfect shape and size than his progenitor? or, if the sire is not able to race, shall we wonder that the son, whose shape is more perfect and larger, should excel his sire in all performances?

But there is still another reason why many of the very finest of these *Eastern horses* cannot race. Our observation of them will shew us, that though their shoulders in general *incline backward* exceedingly, denoting the *racer*, yet their fore-legs stand very much under them; but in different horses this position is more or less observable. This (when I considered the laws of nature) appeared to me the greatest imperfection a stallion could possibly have: but when the same gentleman informed me, that it was the custom of the *Arabs* always to keep each fore-leg of the horse chained to the hinder one, of each side, when not in action, I no longer considered it as a natural, but an acquired imperfection. Shall we longer wonder, that a horse so treated, though ever so well made in other respects, cannot *race* in spite of all his blood? I well remember this to be the case of *the Godolphin Arabian* when I saw him, who stood bent at the knees, and with his fore-legs *trembling* under him.* In our country

* Those Eastern horses always tremble when brought into this country, even in the stable, in winter, though the tempe-

we frequently find horses pawing their litter under them with their fore-feet; our custom to prevent it is to put hobbles on their legs, and this will produce the same position in a greater or less degree, though not so conspicuous as in some of those Arab horses, which have been habituated from their youth to this confined method of standing. His royal highness the *Duke of Cumberland* had, in 1752, a very remarkable instance of this, in a horse called *Muly Ishmael*, which is otherwise the most elegant horse I ever yet beheld: now, whether this position is natural or acquired, will be best determined by his produce. Suppose this horse (*Muly Ishmael*) should be tried and found no racer, shall he be condemned as a stallion, and the fault imputed to his blood; or on the other hand, if his colts are straight upon their legs, and found to be good racers, shall the perfection of such colts be imputed to the blood of the father, when we can account for speed in the one, and the want of it in the other, from the different attitude of each horse? We are further brought acquainted with the fact, that the horses we call *Turks, are in reality Arabs;* that the true Turkish horse, *bred* in Turkey, is a large, heavy, majestic animal, of no speed, designed to ride on for state and grandeur; that it is the custom of the bashaws in Arabia occasionally to choose, from their provinces, such colts as they like, and send them to the grand seignior's stables, which

rature be kept up to 60 degrees: it is a species of *tremor* just perceptible.—EDIT.

they do, *at their own price*, and which the Arabs, who breed them, of course look upon as a very great hardship.

*Of length and stretch.*—Seeing all this, as we now do, how shall we account for the various perfection and imperfection in the breed of these Eastern horses; for we perceive it not determined to those of Turkey, Barbary, or Arabia, but from each of these countries, some good, some bad, stallions are sent us? What shall we do? Shall we continue to impute it to *the blood*, or to the finer texture, finer attitude, and more power, possessed by one individual beyond another? But there is also a *certain length* determined to some particular parts of the racer, absolutely necessary to velocity, of the particularity and propriety of which *length*, all jockeys appear, from the latitude of their expression, to be entirely ignorant, which is, that "a racer must have length *somewhere*, or he cannot take his *stretch*."

If I might now be allowed to give my opinion of this propriety of length, I should say it consisted in the depth and *declivity of the shoulders*, and in the *length of the quarters and thighs*, and the insertion of the muscles thereof. The effect of the different position of the shoulders in all horses, is very demonstrable: if we consider the motion of a shoulder, we shall find it limited to a certain degree by the ligamentous and tendinous parts, which confine it to its proper sphere of acting; so that, if the shoulder stand upright, the horse will not be

able to put his toes far before him, but will attain only a certain circumscribed space at each step or movement; but if the shoulders have a declivity in them, he can not only put his toes farther before him, but a greater purchase of ground will be obtained *at every stroke.*

*The shoulder.*—The certainty of this effect on the stretch, by great *declivity of the shoulders*, will be made manifest to every man's observation; and it is also easily demonstrated on the principles of mechanics, by which we learn, that if a weight is applied to a pulley, in order to shut a door, and that weight be allowed to fall immediately and perpendicularly from the door, it will not pull it close with the same velocity as it will do if an angle be acquired, and the weight pass over a wheel removed to a distance from the door, however little this distance may be. [Now, mark the next paragraph.

Nevertheless, there is no general rule without an exception, for we now and then find a horse to be a good racer, which has not this declivity in his shoulders, but from greater length in his thighs and quarters has a sufficient share of speed.* Add to this, there is another advantage obtained to the horse, besides velocity, by this declivity of the shoulders; for his weight is removed farther back,

* This was the redeeming quality of the conformation of *Eclipse*, which very speedy horse is reported as having had a *low* shoulder (*i. e.* not sloping enough), which defect, however, was compensated for by width of his haunches, which gave him a vaulting manner—greyhound fashion.—EDIT.

and placed more in the centre of his body, by which an equilibrium is acquired, and every muscle bears a more equal share of weight and action; so that, the nearer the articulation of the quarters approaches to the superior part of the shoulders, so much the shorter will the back be; and, as much more expanded as the chest is, so much stronger will the animal be, and he will, also, have a larger space for the organs of respiration to exert themselves in great action. But I would not be understood to mean that this shortness of the back, or capaciousness of the chest, will, together, constitute a racer; far from it: but what I mean to insist upon is, that in any given and *proportioned length*, from the bosom of the horse to the setting on of the dock, the nearer the upper points of the shoulder-blades slope towards the quarters, so much better able will the carcass be to sustain and bring him through with his weight; and, as much as the shoulders themselves prevail in *depth*, and the *quarters* and *thighs in length*, so much greater will be the velocity of the horse, because a greater *purchase* of ground is hereby obtained *at every stroke*. It is in this very propriety of length, strength of carcass, and the power of the muscles, that those *Eastern horses* excel all others; and it is by the same advantages they excel each other also, and not by any innate virtue, or principle of the mind, which must be understood by the word *blood*.

*Sedbury* (by Partner) was an instance of this great power, in whom we find all the muscles

rising luxuriantly, and with remarkable prominence. The famous *Childers* was a like instance of this shape. These two horses were remarkably good; but we have been absurd enough to condemn the blood of both *at various times:* in one, because he had bad feet, and entailed that defect on the generality of his offspring; in the other, because most people who bred from that lineage were running mad after a *proper cross*, when they should have been employed in thinking only of *propriety of shape* between mare and stallion.

I am very far from desiring to be thought a superior judge of this animal, but I will be bold enough to say that, according to these principles *of length and power*, there never was a horse (at least that I have seen) so well entitled to get racers as the *Godolphin Arabian;* for, whoever has seen this horse must remember that *his shoulders were deeper*, and *lay farther into his back*, than those of any other horse ever yet seen. *Behind the shoulders, there was but a very small space ere the muscles of his loins rose exceedingly high, broad, and expanded;* which were inserted into his quarters *with greater strength and power* than in any horse, I believe, ever yet seen of his *dimensions, viz.* fifteen hands high. If we now consider the plainness of his head and ears, the position of his fore-legs, and his stunted growth, occasioned by want of food in the country where he was bred, it is not to be wondered at that the excellence of this horse's shape, which we see only in miniature, and, there-

fore, imperfectly, was not so manifest and apparent to the perception of some men as to that of others.

It has been said, that the get of the *Godolphin Arabian* had better wind than other horses, and that this perfection of the wind was *in the blood*. But, when we consider any horse thus mechanically made, whose levers acquire more purchase, and whose powers are stronger, than those of his adversaries, such a horse will be enabled, by this superiority of mechanism, to act with greater facility; and, therefore, it is no wonder that the organs of respiration (if not confined or straitened more than his adversaries') should be less fatigued. Suppose, now, we take ten mares of the same, or of different *blood*, all held equally good when the mares are covered, and have been esteemed so long before, and put to this *Godolphin Arabian*; let us suppose some of the colts to be good racers, and others very inferior to them, shall we condemn *the blood* whence those mares are derived, which produced the inferior horses? If so, we shall never know what *good blood* is, nor where it is to be found, nor ever act with any degree of certainty in the propagation of the species: hence, I infer, that it is this ridiculous opinion alone *of blood*, that deceives mankind so much in the breed of racers. If we ask the jockey the cause of this difference in the performance of these brothers, he (willing to account for it somehow or other) readily answers, that the blood did *not nick*; but will a wise and reasoning man, who seriously endeavours to account for this

difference in a rational manner, be content with such a vague, unmeaning answer, when, by applying his attention to matters of fact, and his observation to the different mechanism of these brothers, the difference of their performance is not only rationally, but demonstratively accounted for? [See chap. i. of this fourth part.

But, if this excellence of the racer should really be in the blood, or what is called "the proper nicking of it," I must say it is a matter of great wonder to me, that the blood of the Godolphin Arabian, which was a confined stallion, and had but few mares, should *nick* so well as to produce so many excellent racers; and that the blood of his son *Cade*, who has had such a number of mares, and those, perhaps, the very best in the kingdom, should not nick any better than it appears to have done: for I do not consider the performances of the *get of Cade* to have been equal in any respect to the *get of the Godolphin Arabian*.

[Recent observation, however, solves this difficulty—inasmuch as it is the best practice to limit the number of mares sent to the better stallions, the very excellence of the Godolphin Arabian's get, being wholly attributable to the paucity of mares he had to cover, per season.

The question, then, is, whether this excellence of horses is in the blood, or in the mechanism and proportion of the horse? Whoever is a stickler for *blood*, let him take two brothers of any sort or kind, and breed one up in plenty, the other upon a

barren heath; I fancy he will find, that a different form and mechanism of the body will be acquired to the two brothers by the difference of their living, and that the blood of him brought up on the barren heath will not be able to contend in racing with the mechanism of the other which has been brought up in *a land of plenty*. Now, if this difference of *shape* will make a difference in *the performance* of the animal, it will be just the same thing in its consequences, whether this imperfection of shape be produced by scarcity of food, or entailed by the laws of nature; if so, does it signify whether the colt be got by Arab, Turk, or Barb, or what kind of blood his dam be of? Indeed, where shall we find one certain proof of the efficacy of blood, in any horse produced in any age or any country, independent of the laws of mechanics?

If it should be urged, that these Eastern horses get better colts than their descendants, and, therefore, the foreign blood is best, I answer, NOT SO: and, for this reason, it is allowed on all hands, that, according to the number of those foreign stallions we have had in this kingdom, from time to time, there have been more reputed and really bad ones than good: which would not happen in the case of horses who come from the same country, and are of the same extraction, *if this goodness was in the blood only*. But the true reason why Eastern horses get better colts than their descendants, whenever they do get better, is, that (mechanism alike) their descendants, from which we breed, are generally

such horses as have been thoroughly tried, consequently much strained, and gone through *strong labour* and fatigue, most commonly at too early an age, viz. three years' old, or younger: whereas, the imported horse has, perhaps, seldom or never known what labour was; for we find the Mahometan a sober, grave personage, always riding a foot pace, except on emergencies; and the *Arab of the desert* preferring his mare to his horse for use and service. As one proof of this truth, let us take two sister hound bitches, and ward them both with the same dog; let us suppose one bitch to have run in the pack, and the other, by some accident, not to have worked at all,—it will be found that the offspring of her who has never worked will be much superior to the offspring of her who has run in the pack.*

All I have now to ask of my brother-jockeys is, that for the future, when speaking of these horses, they will, instead of the phrase HIGH-BRED, merely say *well-bred;* and that they will not even then be understood to mean any thing more by it, than

* And yet there are persons who send their most valuable mares to be covered by stallions which have no other recommendation than having won the Derby, or the St. Leger, or the York two-year olds, or the Duke Michael, or half a dozen King's hundreds; or has been hacked about and abused, over country courses, after every *fifty* that is to be picked up here and there; whereas, such an animal, with *such recommendations*, ought to be thrown and emasculated with his pedigree on his front, and his *performances* at his tail, as the only means of preventing the disgrace of his kindred.—EDIT.

that they are descended from a *race of horses*, whose actions have established their goodness: and that I may have leave to prefer my opinion of the *mechanical powers of a horse*, to all their simple opinions concerning blood, which is, in reality, no more than a vain chimera, when taken alone for argument. If these things are so, have not we and our forefathers been hoodwinked all our lives by the prevalence of a ridiculous custom, and mistaken system, whereas, by consulting our own reason and understanding, this mist of error would have fled before it! If this mechanical power was considered as it ought to be, it would excite a proper emulation among all breeders; and, when the excellence in the breed of horses was found to be the effect of judgement, and not of chance, there would be more merit as well as more pleasure, in having bred *a superior horse* or horses. Add to this, mankind, by applying their attention to this mechanism of animals, would improve their judgement in the laws of nature; and it would not only produce a much better breed of racers than any we have yet seen, but the good of it would extend to all sorts of horses throughout the kingdom, of what kind soever, in a few generations. It may be a cruel thing to say, but yet a very true one, that amongst the present breed of horses in this nation, a man of any tolerable judgement can hardly find one in fifty fit for his purpose, whether designed to draw or ride; whereas, if the purchasers would endeavour to make themselves masters of this doctrine of

mechanism, or conformation of the several parts, breeders of every kind of horses must consult it also, or keep their useless ones in their own hands, which, I conceive, would be a proper punishment for their ignorance. [Time, however, has effected great improvements in those respects.

*Finally*, the author appeals, not to the illiterate and unlearned (whose obstinacy is too great to receive instruction, and whose prejudices are too strong to be obliterated by reason), but to the candid and impartial inquiry of reasoning and unprejudiced men into these principles; and he hopes this may be a means of exciting some more able pen to vindicate a truth which has been so many ages buried in darkness.

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## CHAP. III.

### *Further Reasons and Proofs how indispensable is true Form to Running, and what that Form is.*

THE foregoing *dissertation* having been published separately, and occasioned much discussion, some persons objected that it tended only to prove that all horses of a good shape will make good racers, let their *breed*, blood, or sort, be what they might. To this the writer replied, that it was by no means his intention to push so far the doctrine of mechanical shape, or what is since called *conformation of*

*the parts*, and co-adaptation of those parts with each other; principally, because, down to his time, mankind had not agreed upon what this *fine shape* of race-horses should be: and, therefore, he proceeds to add, to what he before advanced on this head, his further ideas of what points such a horse should possess, to entitle him to the character of a fine-shaped race-horse.

THE FORMATION, then, which I conceive necessary to constitute a capital and perfect race-horse, does not relate solely to the proportion and symmetry of *the whole animal*, taken at a glance, although it be a *necessary ingredient* to perseverance or *bottom* in the individual so formed; but this formation, to be complete, extends also to the limbs and joints, by which his motions are performed, and his speed is accelerated or retarded: which depends greatly, too, on the particular manner of the limbs being set on—as was said, partly, in Chapter II.* Yet have most, or all, of those things hitherto passed unobserved, or remained unattended to by the generality of sportsmen.

*The race horse* should be broad, deep, and have great declivity in his shoulders; his quarters should be long and strait; his thighs should be let down very

* Much further detail having been entered into upon this part of our author's inquiry, in the *first chapter* of Veterinary Surgery, the inquisitive reader is referred to that work, if he would go more deeply into the discussion. Some remarks on the same, by the writer who signs himself *Nimrod*, were inserted in the Sporting Magazine for August, 1828, and subsequently.

low; his hock should be distinct, far behind, and from him; thence, downwards to the next joint, he should be very short, which part of the leg should not be strait, but stand under him, like an ostrich's leg, with a long lax bending pastern; and these, I think, are, in part, the springs of action: such as we perceive in *the ostrich*, a very speedy bird afoot. But these are *not the only requisites* necessary to the formation of a perfect race-horse, there being as much difference, and as great a nicety required, in the manner of setting on a horse's *arm*,—which should be *at the extreme point of the shoulder bone*, as in any part belonging to him, and which contributes as much to the act of extension, or stretch, as does the *declivity in the shoulders*—before spoken of, in regard to the Godolphin Arabian (p. 212). Neither is one horse in fifty properly formed *at the knee*, for racing; nor does one in a hundred of any sort bear a true proportion from the knee to the fetlock-joint, although it be so very material with respect to every action he is to perform.

By the true *position* of these joints and limbs, the horse is enabled to cover more ground than one that is otherwise formed, even though the length of body be the same in both; and, by *describing so much a greater circle, in going*, he is enabled, when he extends himself to the full *stretch*, to acquire a greater purchase of ground than the horse which stands in a more upright position, even though the latter be the longest of the two.

The proper formation of some of the *outward*

*acting parts* having been described, let us now consider—what else is required to make a perfect race-horse?—and I answer, a general proportion, *length*, muscular substance, and a certain elegance of texture, and of *the constituent parts of the whole*; the nature of which *elegance*, or what I mean by it, is briefly this.—Supposing the *condition* of two horses to be alike, in all respects, they will always excel each other, according to the particular elegance and formation of those *acting parts*, degrees of proportion, of length, and of muscular substance: the want or the possession of either whereof will not only produce their effect in all horses, but a difference also in the very *same horses*, when tried together on *different kinds of grounds*. And this result of such trials could not be otherwise, I think; for, if a different formation of the parts, &c. and the degrees thereof, be not the cause of difference in the performances, why then, one of these horses of the right and true blood would act alike on all ground whatever, and be just as good, though made like a hog, or without joints: unless some other cause of action in horses can be shewn, beside this virtue of the blood, or the formation of the parts, &c. This argument, alone, would, I think, be sufficient to evince the truth of my doctrine, though there were no other to be found in support of it.

The difference in the requisites just-named will also account why some very *plain horses*, that are not well made to please the eye, and so are called

"ill-shaped ones," shall, by reason of a greater length and depth, and a peculiar manner of *setting on* the acting parts, [*i. e.* the shoulders, as was subsequently the case with *Eclipse*,] excel others, which, with the same elegance, possess a greater share of muscular substance and proportion, a more noble and *lofty* forehand, and a finer figure throughout the whole.* Thus, the handsomest and most elegant horse in the world, and of true proportion, too, which wants the proper declivity, length, and gift of circular extension, in those *acting parts*, may turn out no racer at all.

Again, horses with the same elegance, and a tolerable formation of those *acting parts*, shall be able, by superiority of muscular substance, and a more general proportion, to excel those which have a little more *length and depth* in the acting parts; for, by means of this substance and proportion, they will bear to be pressed longer than those who are deficient therein; and so far the old proverb, namely, that *all shapes run if of the true blood*, may be allowed to be true enough.

When I talk of *length* and *extent* in the acting parts, I desire not to be misunderstood, for no horses' legs can be too short.

*Greyhound shape.* Now, where is he, who will take upon him to say, that some men are not able to distinguish by the eye this *difference of formation* betwixt some horses, as well as others can distin-

* If the forehand be more lofty than the croup, he cannot run worth a curse: but, if a *strong one*, may make a good stager.

guish this same difference betwixt some dogs; though perhaps not quite so readily, because the human eye cannot take in, at one view, the parts and proportion of a being, where one is so much larger than the other. For, whose eye does not inform him, that a *greyhound* will beat a cur-dog, or that a *bred-horse* (as it is called)* will beat a cart-horse? then, why not allow that there is a difference betwixt two bred-horses; for he who does not perceive, that many such do differ greatly from each other, I am inclined to think cannot see at all. Is it not evidence that, although many sorts of dogs are as *long* as the greyhound, every eye may see that one will excel the other in speed, and that mainly from the curves and segments of circles, which one describes in his shape, and which the other has only in a less degree?

*Fine greyhounds* have, like fine horses, a general proportion, a certain elegance of parts, of length, and are furnished with long-fibred muscles; their hocks are *let down* almost to the ground behind, and stand from them; and then, to remedy the want of a long pastern, their feet or toes are made longer than any other dogs' that can be named. It is this very conformation, so obvious in the greyhound, and in some horses, which have wide haunches, that in part produces the effect of *speed;*

* That is to say, one whose breeding or parentage, manner of get, gestation, and training, has been *cultivated*, or taken care of, as have that of his progenitors (being good ones) through several generations.—EDIT.

and the reason why it is not so manifest to all men in both species, is, because *the degrees* of this formation do not come so near together in dogs as in horses,—that of the greyhound far excelling all others of his kind.

Now, the fine greyhound being remarkably broad, and expanded in the muscles of his thighs, I call this a perfection in him; and so I think it is in horses, though it be but seldom seen. This the generality of sportsmen esteem a fault, and what almost moves my laughter, they call it *a coach quarter*.—So little likelihood is there of any agreement amongst mankind about the proper formation of a race-horse, that they have not so much as agreed upon the names, whereby to distinguish the different parts thereof, even, although the muscular expansions ought to be very different in these parts, when we require a faultless horse of any sort.

*Hares* are made in the same manner, and they can describe a greater circle, and acquire more ground at one stroke than any animal known in the whole world, of their size and length; and that because their quarters are so long, their thighs are so much let down, and the lower part of their hinder legs are placed (as it were) under them, and, to answer the purpose of a long pastern, their toes are made very long. From these causes, I am inclined to think, her *springs* of *action* are in part derived,—add to this, the *blade-bone* of no animal runs away into her back with so much *declivity* as a hare's, and this, I think, enables her to *point*

forward. Again, mark the length from the *elbow* to the *knee* of a *hare*, and the short space there is betwixt that and the next joint; by this length of the *arm*, and the muscles thereof, she can farther extend her foreparts. So it is in a greyhound, though not, I think, to such a degree; and this formation *in degree* so far appertains to the running-horse, that he cannot be called perfect without it, let him be ever so well constituted in every other respect. But the degree of shortness in this part of the horse is better considered by the proportion it bears to his other parts, than by any general rule that can be laid down.

Now, it is well known among coursers, that the hare can strike as far at a stroke as the greyhound dog, which is so much longer;—tell me then, are her motions performed by the peculiar formation of the acting parts, and the strength and elegance of her muscles, or by any innate quality, and unknown virtue; or whether, from a similarity in these points found in all animals that are particularly endowed with speed, there may not be some reason to suppose, that the cause of it is the same in each? and whether it be not highly probable, that the power who created all animals, has ordained, that the different degrees of speed in different horses, should depend on the very same law as the different degrees of speed in different dogs, I mean the law of their constituent parts, even though you and I should happen not to perceive any difference in such parts?

*Of bony horses.* I have often been surprized, and diverted too, with the commendations I have heard sportsmen bestow on horses, for having large bones; becauseI think that on the contrary depends, in great measure, the excellence we find in what are called *stud-bred horses.* If, by this expression, *substance* only was to be understood, it would be quite agreeable to my notion, as I have said before; but what constitutes the great difference (formation of the acting parts excepted) between the *Arabian* horses, and all others, is, that some of them have, and all should have, to be perfect, *larger tendons,* or sinews,* and smaller bones, than any other horses not made for speed; for these tendons, muscles, or sinews happen to be the sole powers of acting in all animals, the bones being the weight to be lifted, and serve only to extend the parts.

Which, let me ask, will act with most velocity, and most perseverance for a time, (all other parts agreeing,) the horse that has a large sinew, and a *small solid bone,* like *ivory,* i. e. like a stag's bone, or he that has a large bone of a soft spongy kind, with a smaller sinew? for the dimensions of the leg shall, if you please, be the same in both—I should think the former. This solid bone with a firm sinew, and a fine skin super-*induced,* where you may see every vein, and can lay your finger nearly between

* That is to say, large in proportion to the bones the animal has to propel along—as proved in hare and greyhound, case adduced at page 224; but not *large muscle* that obscures the sinew and conceals the bones.

the bone and the sinew, shews that the horse has no thick fleshy muscle intervening, which serves only to retard his speed, and is (like the bone) a dead weight to be carried along with it, and which no way conduces to the strength of the animal.

*Limbs proportioned.* Now, this is what I call elegance of parts, which is not confined to the *outward texture* only, but extends also to the *internal* constituent parts of the legs; *namely*, to the bones, sinews, and membranes, which is in part explained already—and to all the ligaments of the joints—and this elegance of the constituent parts shews itself particularly in many horses, where, though the leg shall have a very sufficient substance, and bear a true proportion to the other parts of the body, yet the pastern shall be very *lax*, as well as very small, both which are very necessary for a perfect race-horse, length and laxness serving as springs for the acquisition of ground, smallness contributing to agility, and to perseverance or bottom.

That the smallness of the pastern shall contribute to the stoutness or bottom of the horse, you will say is very strange, and *new doctrine*, it being generally looked upon as a sign of weakness. This perverseness I cannot help: but, if there were no other argument to support this doctrine, examples enough of horses so made, that were excellent racers, might be brought in defence of it, and I think no body will dispute matters of fact; though

I am not quite sure of that. For instance, *Cartouch* was a remarkable horse, in these respects, which, although but a galloway in size, beat some good and *sized* horses very easily, all carrying eleven stone!

*Back sinews.* To explain this doctrine about the smallness of the pastern, as it relates to bottom, we must examine a little the constituent parts of the limbs. To this end, the reader must understand, that in every animal all the difference there is betwixt *muscle* and *sinew* is, that the fibres of the first are broad and fleshy, those of the latter dense, more firm, and drawn into closer contact; whereby the strength of a small sinew becomes greater than the strength of a large piece of flesh [as we vulgarly term *muscle*, until by hand rubbing, by exercise, hardening the system and keeping down flesh generally, we convert a great portion of this muscle into sinew.] For instance reader, let us consider, *your leg and mine:* the hinder part of it, upwards, at the calf, is a *fleshy substance*, which anatomists have agreed to call *muscle;* lower down, towards the extremities; this is more compact, and becomes *tendinous* or *sinewy*, though it still be a continuance of the same body; and we find it in action capable of bearing its share of work without complaining; whereas, the calves of the legs often do tire and become painful after much walking, or any violent exercise.

Further, I pray you tell me, whether you ever thought a man, who was well formed in all other

respects, to have less agility, or less strength, because the small of his leg was very delicate and slender? or, if your leg and mine had been covered with a thick coarse membrane, and composed of loose fleshy fibres, continued down to the extremities, instead of being fine and tendinous, whether you do not think, that such a weight would have been against us, have made us less active, and liable to tire sooner? Just so it is with the horse. But it too frequently happens when the wise designs of nature are not fathomed by our shallow capacities, we arraign the skill of the omniscient power, and foolishly presume to censure his works, when they are most perfect! *In these things alone, I mean the nature and elegance of their constituent parts, and the due formation thereof, consist the difference between horses of the same, and different countries, or betwixt blood, and no blood.*

*Speed not heritable.* Now ask the sportsman how it happens, that some of these long pasterned horses perform so notably; he has his answer ready, "why 'tis in *the blood*, to be sure, or else these weak cat-legged devils could not run so." These same sportsmen have another saying, "such a horse shews a great deal of blood." [That is to say, shews that he has blood *affinity* to the right breed of horses for running:] surely they think it something *mechanical, and visible* to the eye, else they could not use this expression; or, do they pretend to discover, by innate knowledge, the innate virtues of the animal? But they mean, if they mean any thing,

what I do, when I say such a horse has a peculiar elegance in the texture of the external parts, [which he derives from his Arabian ancestry.]

But *Arabian* horses, of the very same family, differ as much from each other, both with respect to length, substance, proportion, elegance, and formation of parts, as horses of the same family can do in other countries; and how should it be otherwise? for we plainly perceive here at home, that there often is a great difference betwixt two full brothers, of all kinds or species of animals: pray now tell me, why this should not happen in *Arabia*, as well as in *England?* For instance, *Conqueror* and *Othello* were two full brothers, but one was a king and the other a beggar, with respect both to *form and action*.* If then the difference in the performance of these brothers did not depend on their different *formation* of parts, &c. pray tell me, on what did it depend? for the cause of it could not be *in the blood*, unless you will say this innate quality may appertain to one brother, and not to another; and then I apprehend the by-standers will say, you have proved it to be plainly nothing.

A hundred examples of the same kind, and that almost in every family amongst our racing-horses, might be brought to show, that two *equal brothers* are hardly ever produced; and when a difference does happen, it will be just the same thing in its

* Got by *Crab* out of *Miss Slamerkin*; but nine years elapsed between the getting of the two colts, Conqueror being the youngest of the twain; and the same colour as his sire, viz. *grey*.

consequences (if the formation of parts, &c. be at all concerned in action) whether it happen to an *Arabian* horse, or any other. Why this difference should be betwixt two full brothers is not at all material for us to know; it is sufficient for my purpose that it does happen: it may arise perhaps from a dissimilitude of parts in the horse and mare, or from a similitude of some parts tending to some extreme in both; it may arise also from some violence or impression on the womb, whilst the fœtus is in a soft state, or from some defect of constitution in the mare, or the seed of the horse.

If I could have a horse formed in the manner, and with all the advantages I have here named, I should be proud to use him as a stallion, were I a breeder, without making any inquiry after his family or country. But, shall the brother of this horse, because he is brought from the mountains of *Arabia*, and of the very best reputed high blood (as it is called), who is deficient in all or most of these respects, (no matter from what cause,) induce me to breed from him, for the sake of his family and his country only? and that a great difference does occasionally happen in the same, and in every family of horses, I suppose no man will deny. But it is said with great truth, that the virtue of the blood in him that was no racer, may produce a racing son; to this I agree, it may when the son has happened to acquire a formation of parts, &c. different from the father's, *by the help of his mother's* constitution. In that case, indeed, an ill-formed horse, that could

not run himself, may, and often does, beget a better racer than himself, by the assistance of better parts derived from, and similar to those of the dam.

On this point, *Virgil* observed, eighteen centuries ago, that your good judges of breeding require a stallion, that is a good runner himself, as well as of true courage, or else the country he is brought from is of little consequence, nor even his *lineage*, although he may derive it from the immortal gods.

It is owing to this opinion of the *virtue of the blood*, and what the sportsmen call a proper cross, coupled with an entire inattention to, and want of knowledge amongst the breeders, as to the laws of nature, and proper conformity of the several parts, necessary to make a race-horse, that so very few good ones are occasionally to be found in this kingdom. For, is it not a truth to be seen every day, that the very best reputed bred horses and mares in the kingdom cannot run at all? yet they still serve to breed from for the sake of *the blood*, or *the cross*. As to *the mares* in general, we seldom know any thing of them but their pedigree; yet we talk of the goodness and badness of stallions, as if the mare had no concern in the quality of the produce; and what is worse than this, most men who keep a stud, generally entertain a good opinion of their own mares; so, when these do not produce good colts, they as generally impute the fault to the horse who got them: from such prejudices, some of our best horses often fall into unmerited disesteem as stallions.

But, for sake of argument, it shall be allowed, that the excellence of horses consists in being of the *true blood;* what then? is it of any use to the breeder, when experience shews it will not hold good in two full brothers?* But he cannot, with common sense, believe, nor have any reason to suppose, that the virtue of that high blood or spirit, call it what you please, which was of no effect in the father, and which would not entitle him to be a racer, should produce a better effect in the son, when this virtue is considered in the light the sportsmen use it (that is) *independently of form and matter.*

These observations, which I have made on the different families of race-horses, and betwixt those of the same family, have made me conclude that neither the virtue of the blood, or spirit, breed, pedigree, nor proper crossing, will enable one of them to race, unless he has the proper formation along with it.

Thus I have shewn, satisfactorily I hope, that the origin or breed of all horses, as well as of all other things, of the same species, was the same in the beginning of time, and that all the difference betwixt the *Arabian* horses, and all others, consists in nothing else, but a peculiar elegance and formation of parts, and in having a greater share

* Much will depend on the fitness of the mare to receive the horse at the time of covering of the horse to enact *his part*, or other circumstances, as was said at the commencement of Chapter I. page 168.—EDIT.

of muscular power; that is, the fibres of these muscles being drawn into closer contact, animals are thereby enabled to move *quicker*, and with more *force*, by reason of their membranes and teguments being composed of a firmer and less bulky substance, and their bones being smaller, of more solidity, and occupying less space, they are and can be more easily acted upon by such tendinous or muscular force; and that for a greater duration of time, with less fatigue to these acting powers. Then, consciousness hereof gives them courage.

*Of Wind.* In the next place, it may be asked, what gives wind to horses, and whether the causes of that too are discoverable by the eye? To this I answer, that clear wind, or *long-windedness*, depends on the very same principles in all horses, and in all other animals, as *agility of action*, and *ability of perseverance*; namely, the nature of their constituent or component parts, particular diseases in these animals not coming into the question; for *elegance of parts* is no other than *wind*, and *strength*, and *agility*, at least it is productive of them. And, as the elegance of the external texture in the horse is a certain standard or test of a similar elegance throughout the whole *internal contexture*, so far the cause of thorough-windedness, as it is called, may be said to be distinguishable to the eye.

For instance, the stud-bred horse will gallop twelve miles within the hour, without the least fatigue, or being at all blown, but the cart-horse

with such a jaunt is fatigued, and tired, and choaked; the reason whereof, I think, is obvious to every man, namely, because his eye enables him to perceive, that one, from the nature and difference of the component parts, acts with ease and facility to himself, and the other does not.

Now, may not the man be thought mad, who says, the difference in the facility of respiration betwixt these horses, depends in one upon form and matter, and in the other not so? and is not he equally absurd, who says, that the difference of wind, in two bred horses of different families, does not depend on form and matter also in both, because the degrees of elegance in the component parts of these two are not so obvious to his eye, as they are betwixt the bred-horse and the cart-horse. For, if we could suppose two horses to be alike in health and condition, and formed and constituted alike in other respects, he that has the most capacious thorax or cavity of chest, will undoubtedly have the best wind; and this is confirmed by actual occurrences, and notorious matter of fact, and would be known to all men, if they were not blindly partial in their observation of things and events.

[If a horse has *superior stretch*, he does not tax his lungs so highly—does not put them to so much labour, as another with finer lungs (larger), but whose fatigue at going a quick pace occasions greater working of the frame, and its contents, the lungs particularly.

If to this it is objected, that many running horses, with the chest less ample, have occasionally excelled others, with a more capacious one, I allow it is very true, but insist, at the same time, that it is easily accounted for, without appealing to hidden causes. For example, one horse of a less ample chest, with great length and extent in his acting parts, is to contend with another much shorter in these respects, of a more ample chest; but the organs of respiration may be more fatigued in the last than in the first, because the long horse, who goes *within his rate*, may act with ease and facility to himself, whilst the short one, which is forced to go at the top of his speed, and yet not able to keep company with the other, is of course distressed and fatigued in every part.

For the reasons here given, the *Arabian* horses, and their descendants, when properly chosen, are preferable to all others, whether you are to be carried a mile or a thousand, either for pleasure, expedition, or safety, let the weight be what it will, nor have any other horses such true courage, or calmness of temper, nor can they bear fatigue with equal fortitude, as our *severe discipline of training* will in some measure help to shew. Not only are they best for *riding*, but for *drawing* also, if you breed them to *size*, and inure them to it early, as it is the custom to do with our English horses that are designed for drawing; for our country horses, whose acting powers, or sinews, are oppressed with coarse fleshy membrane, thick

guments, and large spongy bones, will on this account be much sooner fatigued and tired with their own weight, than the *Arabians*, even though their acting powers were equal in strength to the *Arabian* horses, which they by no means are, and that from a difference in the contexture of the muscular and tendinous fibres before noticed.

Just so it is betwixt the *southern hounds*, and those we make use of to hunt *the fox;* and yet I have heard the huntsmen talk just as ridiculously of the blood of fox hounds, as if it was something independent of the formation and elegance of their parts, as the sportsmen do about *the blood of horses*. But in this the skilful huntsman differs from the sportsman, in one respect, for the first very often gives away, or knocks his hound on the head, without trying him at all, if he does not approve his figure; whereas, the sportsman always trains, if he likes *the blood*, let the horse be ever so defective in the formation of its parts, &c. But if he would consider his racer merely *as a horse*, and in the same *mechanical* light, as he distinguishes his hunter from his cart-horse, and would waive this preternatural quality, which he understands by the word *blood*, it would save him much expense, and many disappointments. For, although the eye of man may perhaps not always determine, with such precision, as for us to say, 'this horse shall make a capital racer,' yet I will be bold to say, that the eye of the same man can most frequently determine with so much certainty,

(I mean amongst stud-bred horses,) as for him to say, 'this cannot run at all.' But this last assertion will be credited by very few sportsmen; for this plain reason, namely, because the high opinion they entertain of their own judgement will not suffer them to assent to a truth, which they themselves cannot perceive; for *all men* fancy they understand horses better than all others.

And now, since I am dealing in maxims, give me leave to add one more, which you may depend on for truth, and lay down as a certain criterion of the sportsman's skill in horses, namely, that the more strenuous an advocate he is for this innate virtue, called *blood*, so much less knowledge he has of the animal, and which *opinion of blood* undoubtedly is in him, not a tacit, but an open and avowed acknowledgment of his ignorance of proper shape or conformity of parts; else he would not have recourse to occult and hidden causes, to account for facts, that are discoverable by the eye. But the word *blood*, received in its general acceptation, is found to be extremely convenient to such persons; because it is agreeable to the good old law of *custom*, from which source the generality of men's ideas are derived; and so, of course, it prevents the youthful sportsman the trouble of making any inquiry into the form or nature of horses. Again, they talk just as ridiculously of *bad* as they do of *good* blood; for it is a common saying amongst those sportsmen, that they would prefer to breed from a horse, whose blood they liked,

though he could not run, rather than from him, that could run well, whose blood they do not like, yet both shall be thorough bred!

Let us suppose a case:—here are two mares, both originally bred from *Arabian* horses, and mares, or the descendants of such, which I suppose is all that is to be understood by the term "thorough-bred horses." One of these mares is called *Duchess*, and is got by *Whitenose*, out of *Miss Slamerkin* [See page 230, *Note*]; and, because the produce of this horse has been generally found deficient in racing, they are branded with the infamy of *bad blood* to breed from; yet *Duchess* herself was an extraordinary racer. The other of these mares was got by the *Godolphin Arabian*, the best reputed blood in the world, and called *Sylvia*. Now, she was a very bad racer: then, pray, sir, take your choice, which of these will you have for a brood mare?—why, according to your own doctrine, you must take *Sylvia*: can the folly and nonsense of this opinion be equal to any thing but the practice of doing it? So, if my horse or mare, which is thorough-bred, and a descendant of *Whitenose*, *Stampcrab*, or any such, shall, either in the first, second, third, or tenth, descent, prove a good racer, (no matter from what cause,) truly, I must be afraid to breed from them, because you, from the prejudices you have conceived, and from not understanding any thing about horses, have been pleased to fix a mark of disgrace upon some one or more of their ancestors!

Now, by way of simile, let us suppose that your grandfather and mine were knock-kneed, crook-legged, and splay-footed—these, I think, would have been but indifferent racers; but will it follow, that such defects must, of necessity, be for ever entailed on all their posterity? Or don't you think, when any of their issue happen to be better formed, that they would turn out better runners than their splay-footed grandfathers? Mark how the size, strength, activity, shape, and attitude, the beauty and regularity of their limbs and features, the spirit and temper distinguishable in all the families of men are *lost*, or, perhaps, *improved*, in one decent! How, in all these respects, this son differs from his father, and that from his grandfather! Pray, now, will it or will it not, be so with the horse and his posterity, whether you and I have discernment enough to perceive the difference there is betwixt them, or not? But some difference of form must, and will, for ever arise in the breed and posterity of men and horses, and of all other animals, from the different form and constitution of the females, to which they and their descendants are occasionlly joined in copulation, or else the laws of nature are of no account.

Thus, you see, the distinctions set up of good and bad blood, when confined to the desendants of *Arabian* horses and mares, are equally absurd and foolish; yet, that the best and worst racers are *most likely* to beget such, cannot at all be doubted, for this is a law of nature not to be slighted.

But this law of nature extends both to horse and mare alike; so that the breeding a good racer requires a thorough knowledge of the animal, and is a matter of judgement, and not of chance, which, by relying solely on the blood, breed, or proper crossing, you make it to be.

Now, it has been allowed, all along, that the *Arabians* are the best kind of horses we know of, from which it can be expected to breed *a racer*, or in other words, the most perfect horse for *going*; and, that the offspring or descendants of such are most likely to inherit the virtues of their progenitors; as, also, when they are deficient in the proper formation of these acting parts, or lose the elegance or muscular substance of their progenitors, by crossing, or otherwise, they will, according to the degrees of deficiency, in any or all of these points of conformity, fail, also, in *the degrees of their performance*—which truth we might see verified every day, if we were not blinded by our own prejudices, or took the trouble to understand any thing of the animal.

Furthermore, I am of opinion, that *Arabian* horses of the same family do, occasionally, differ from each other as much as any horses can do, in any other country *of the same family*; so that the possession of an *Arabian* horse, which is wanting in the respects that have been here set down, will be of little service to the owner, let the genealogy, blood, breed, or lineage of such horse be what they may. For these reasons it is I have asserted,

and do maintain, that the excellence of all horses depends on their *mechanism* only.

So, then, there is nothing in blood—indeed, nothing at all—*independent of form and matter*, as the sportsmen say there is. But the Arabian horses, being better constituted for action, in their several parts, than other horses do, by means thereof, excel all others, and each other also according to the degrees of difference that exists in their form and constituent parts, the nature and application whereof I have here endeavoured to explain, I hope, satisfactorily.

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## CHAP. IV.

*Of Breeding from Eastern Horses: effects of Climate; symmetry, size, performances; half-breds and thorough-breds, compared; estimate of pace, component parts, courage.*

ALTHOUGH it may appear out of the way for *sportsmen*, merely as such, to become acquainted with the nature and uses of bones, sinews, membranes, ligaments, teguments, and so forth, which together constitute the limbs of horses; yet, in the present improved state of learning, and the manifest advantage this kind of knowledge must confer on breeders, dealers, and owners in general, no reason can be assigned why they should not straightway apply their minds to the acquisition thereof. For

they could not, without this pre-knowledge, account for the different effects, with respect to the *laws of motion*, produced by a difference in these matters, which would stand evident before better-informed minds; therefore is it no wonder that the superior excellence found in some of those *Arabian horses* has been imputed by them to some peculiar *hidden virtue* or other: for which mistake of theirs there might, indeed, be some plea, if there were no difference visible to their understandings, concerning the several parts of the *stud-bred* and the *half-bred* horse. But I shall be excused, I hope, for disagreeing with this ancient opinion, as to innate properties in the blood; nor ought my doctrine, on this head, to be disregarded because of its novelty—nor, though all mankind were arrayed against it.

Even when men have arrived at this desirable portion of knowledge, they do not often, in these later times, find living subjects, on which to exercise their judgement. For, if any one inquire how it comes to pass, that the *Turks* and *Barbs* here spoken of, as horses proper to get *racers*, often fail, I reply, as I did before, that the people of those countries, now, know as much as we do, and only sell us the refuse of their stock, because they know we think it a sufficient recommendation of the horse that he simply comes from their *country*. Precisely the same is the case with people in many parts of the *continent of Europe*, who are so fond of the *English hunter*, that if the horse comes from hence, that circum-

stance alone carries with him a sufficient recommendation. But, I will venture to say, there is not one in a hundred sent out of this kingdom that is worth a guinea, when compared to some other of our common *English Hunters* of the very same stamp. In both countries the *ornates* of the land keep their very best of either description; and, in casting their studs, periodically, take care not to part with the germ of their victories, their pride, and their profit. What care and expense we bestow upon our horses in England, every one is aware of, whom it behoves to know; that we excel our continental neighbours, and have ever done so, in our stud and stable management, is as palpable as it is nationally consolatory to know; but the treatment of their brood mares and foals in Asia, not being so generally known, let us take a glance at the economy of an Arabian stud.

*The Arab at home.* Horses brought up in the desert are known by their temper and docility, as well as their size and figure; for, being ever kept, from their youth, in the tents of the *Arabs*, and in the same apartments with themselves and children, they, by this familiar and domestic way of living, become as tame and passive as their dogs; and so, by an indolent posture, bad habit of standing, with the legs tied under the belly, and lolloping about in the tents, they acquire an awkward gait, and crooked growth in some parts, which, we say, is very ugly; and, so, we are induced too easily to conclude, that the goodness of such horses,

when they get good racers, consists in some *innate quality, void of form and matter,* which is ever understood by the word *blood.* For instance, Lord *Godolphin's Arabian.*—This horse, except his being *narrow in the bosom,* and a little lengthy on his fore-legs, was, in all other respects, a very just horse, and more likely to get good racers, than any horse I ever saw; and yet he was looked upon by most people in a different light, because most people judge of a horse by his fore-hand only, which in fact has nothing to do with *racing* nor with *action.* One said he was an ordinary, ill-grown, ugly horse; others said he was a lump of flesh, not knowing that the strength of all animals is, in great part, derived from this flesh, or muscular substance, and *the nature thereof:* and so, by seeing these horses in miniature, by careless examination of the laws of nature, and clumsy inquiry into facts, people drew false conclusions about these, as they do, in general, about most other things. Be it known, moreover, those colts bred by *the Arabs of the desert* are more coveted by the *Turk,* and all the governors of his mighty empire (some of whom keep immense numbers of these fine horses), than any other horses bred within the confines of *Asia,* or of *Africa.*

It is said, that the *Arabs* keep a more exact account of the genealogy of their horses, than of their own families; and so they do, of such as have performed some extraordinary feats in their expeditions. In like manner, whenever they have a colt

dropped of a *favourite* get, they assemble together, some other *Arabs* to be witnesses, and sign vouchers thereto; and his colour, marks, and lineage, are faithfully set down in writing, the particulars of all which are attested with much solemnity when such colt is sold, and this certificate is also produced. Hence it follows, that such colts are rated at a higher value than common; and hence the notion is derived, that the *Arabs* have different kinds of horses, some of which are (according to our phrase) of the right and true blood, and others not.

But all that is understood by the breed or genealogy of the *Arab's* horse by himself (however *we* may understand it) is, that he is descended from such as have undergone the hardships of labour, fatigue and fasting, with the utmost fortitude and resolution, and have brought the master off in safety, by superior speed and perseverance, in times of imminent danger, in his expeditions of plundering or defending travellers in their journey through the desert, for which some of them are paid by the Grand *Turk*. On those accounts, such a genealogical account of the horses as this is a very rational one; for it is a most certain way of estimating their value and excellence, and a likely method too of preserving a good breed. The fatigue their mares are said occasionally to undergo, which sex the *Arabs* generally ride on those expeditions, is almost beyond credibility; it being affirmed, that they sometimes keep them out on their predatory excurtions for two days and a night together, without the

least sustenance, or any possibility of obtaining for them a drink of water.*

As hath been said before, those fleet horses that are *brought up* in the more fertile parts of *Asia*, (as *Turkey*), have, in general, more elegance than the Arabs of the desert, though they seldom arrive to their height; and all this difference of *size*, *temper*, *figure*, and elegance of parts, so often insisted upon in these pages, is the effect alone of food and climate, and *the manner of bringing up*, which we, of the present day, term "stable-management." For, we know by every year's *experience*, which is to some dearly and fearfully *bought*, that variance in food and manner of rearing, in the science of training and bringing to the post, will produce a difference in performance in the very same family of horses, foaled in the same district,—nay, between two own brothers. Nay, so far as *descending* goes, I am convinced that any man who understands the nature of horses, might

* That our author is here correct in his breeding views, as to the co-adaptation of sire and dam, without absolute reliance upon Arabian *blood*, has been recently proved in a very striking instance in India. At the Barrackpore races, Jan. 1829, *Pyramus*, a thorough Arab horse of the best race on that side of Asia, and esteemed the best runner ever produced there, was beat easily by *Recruit*, an English race-horse recently imported; got by Whalebone—Waxy out of Penelope—by Trumpator; her dam Prunella, by Highflyer. The Russian also made an effort or two to cope with the English horse. In August, 1825, the two best of the Scythian-Tartar breed ran against two of our breed, a race of forty-one miles, and were beat by *Sharper*, bred by Lord Egremont, dam by Gohanna.

here, in *England*, undertake to breed from those fine *Eastern* horses, in less than ten descents, a race full as coarse and inelegant as the *black Lincolnshire* waggon-horse. [No. 5, of plate 2.] And this he might accomplish solely by observing the defects of nature, always keeping his cattle on low wet ground, with rich herbage, and by exposing them to all the inclemencies of weather. Nature then clothes their legs and heels, mane and tail, in long shaggy vestments, and the looseness of fibre, which has been super-induced by humidity of the atmosphere, is abundantly filled up with the gross green feeding concomitant of such a climate.

As a contrast to the swampy country we have just contemplated, let us turn to our own more favoured breeding districts. Craven, in Yorkshire, the Salopian Hills, the downs of Cambridge and Suffolk (Newmarket), and a few score more such high and dry soils, ever favourable to the breeding and rearing, and bringing forward for use the best of this country's boast. Of the original stock of Arab horse, it is affirmed by many people of veracity, that the air of the desert is so free from vapours, that there is not moisture or damp sufficient to affect the brightest gun with the least shade of rust, after laying it abroad for a whole night.

The different effects, then, of humid or dry air are worth observing: if you hang up a cord or string of any kind, it becomes contracted or relaxed, according to the degrees of humidity or of

dryness of the air. What else, let me ask, are the sinews of a horse, but a cord or string, composed of many threads or fibres? Hence it comes to pass, from such temperature of the air, that the sinew of the *mountain Barb* is as compact as a bar of iron; and hence the degrees of difference betwixt him and some other *Asiatic* horses, and all other horses of the world—the nature of food being also taken into consideration. But so little to the purpose is still understood about the matter in question, that those very horses are called "weak, cat-legged things;" whilst our great coarse brutes, with hairy legs, thick skins, and lax fibres, are esteemed much the strongest, by ninety-nine horsemen in every hundred throughout this kingdom.

Speaking of *Barbs*, I would be understood to mean those only which I have seen, all having a particular cast or turn in their hinder parts, whereby they may in general be easily distinguished by an observant eye, from the other descriptions of Eastern horses depicted in Plate 2, No. 1, 2, 3.

*Of Half-breds.* The attachment of some men to a *half-bred*, or what is commonly called "a good *English horse*," is, I think, full as absurd, as the opinion of *the sportsmen* about *blood*; they object, that those "cat-legged things," as they are pleased to call *bred horses*, whose legs in general are, by the bye, a great deal larger than they appear to an injudicious eye, are fit for nothing but *the race*; they say, also, that "half-bred horses will lose them on some roads with a heavy weight." *Secondly*—

that 'they go near the ground,' and, therefore, are 'apt to blunder.' *Thirdly*—that they are 'long pasterned,' and so have 'an *awkward way of going*.' To *the first* I answer, that if any man be willing to match a horse, which he will certify to be half-bred, against another certified to be thorough bred, I will undertake to find him a play-fellow, and will entertain him for what sum he pleases, and the owner of the half-bred horse shall choose his *ground, length,* and *weight*. But the man who never saw *Bay Bolton, Atlas, Tartar,* and many others that might be named, may perhaps think, there are no *bred horses* of strength and size, and substance, sufficient to struggle with deep roads, and heavy weights. [A misapprehension that the practice of breeders in the reign of GEORGE IV. will teach him to amend; his Majesty's opinion on this point, which is no mean one, leans to the side of a proper quantity of bone and height, which gives the racer an advantage at every stroke or stretch; besides, if the services of high-bred produce is designed for the draft, it cannot be too large, if not surpassing big, as *Filho da Puta, Elephant, Grenadier*. A strong roomy and healthy country mare, covered by a thorough-bred horse, with vigour in him, always throws a large foal; but she *must be* HEALTHY, be well kept, though not pampered, and allowed comparative rest, when towards the ninth or tenth month her back bone bends with the load within, and her blearing eyes tell us she can carry no external burthen without distress.]

To the second objection, that '*bred horses* go near the ground,' I answer that the generality of such 'cat-legged things' having been trained from their youth on a smooth surface, some of them do go *near the ground;* but this is partly owing to the *nature of the ground,* to education and fatigue in their tender years, and, in some cases, to the manner of *setting on of the arm;* and is not the certain consequence of being a *bred horse,* because there are many bred horses, which, with this same education and use, do not by any means go near the ground.* As to *blundering,* it is very absurd to suppose, that the bred horse *as such,* is less sure-footed than the half-bred; for, besides his having more agility, strength, and true courage than the other, the very formation of its several parts will indicate the contrary; for, not to say any thing about the *setting on* of the *arm,* or the rules of proportion from the elbow to the knee, and thence to the fetlock, nor the *formation of the knee* itself,† these bred horses having in general more depth and declivity in their shoulders than others, they can most certainly better extend and elevate their fore feet, and so forth. Add hereto, the *curve* or semicircular figure, they do generally, and should al-

* This is a great advantage as to *pace;* horses that go near the ground at full gallop being always speedy.—EDIT.

† Depicted, with the requisite accuracy, in *figure* 3, page 40, of *Hinds's Veterinary Surgery,* where will be found much minute detail on those proportions, and the make, shape, or built of the horse generally, principally as to the diseases to which malconformation gives rise.

ways make with their hinder legs when going, they as certainly can stand and go more securely on all kinds of grounds; whilst the generality of our old *English horses*, with little or no breeding in them, stand upon four sticks or uprights, that seem, as if they were designed rather for props of support than for extension or action. The advantages of this *declivity in the shoulders* of horses will be farther elucidated, by observing with what facility, both to themselves and riders, such go down the steepest hills, with the utmost facility and safety; whilst other horses, which want this declivity in the shoulder, rock and roll about on such steep ground, to their own terror, as well as that of the riders, if they happen to feel sensible of the danger that often awaits such enterprises.

With respect to *length of the pastern*, even for common riding, when expedition may not be required, there is just as much difference in point of ease to the rider, betwixt a long and a short pasterned horse, as there is betwixt riding in a carriage that is hung upon springs, and one that is not. Yet I do not think it necessary, that one of these *bred horses* should be as long pasterned for the road or hunting, as for racing; but he will undoubtedly stand more securely on his legs, by having lax and springy pasterns, all other parts agreeing, than by having them *stiff and upright*, both which circumstances must of necessity appertain to short pasterned horses, in some degree, at least. As to the mode or *manner of going*,

attendant upon the long sloping pastern, it scarcely deserves further notice; though all that can be said will make against the shape of the half-bred horse's limbs.

These objectors say, 'there is not one bred horse in fifty, that does his paces well;' to which I answer, with a scoff, there is not one half-bred horse in five hundred that does *his paces* well; but every body knows, or may know, that a half-bred horse, which may be ever so finely put together, and does not go tolerably well, will soon tire, and is not worth sixpence *for riding*. But *the mode* or manner of going in *a bred horse*, if he be well put together, is perhaps of little consequence to his goodness; there having been many instances of exceeding *good racers*, which were very *awkward goers*, to look at;* and, therefore, I take upon me to say, in contradiction to the opinion of all the so-called *good judges* in this kingdom, of every denomination, (of which there are as many in

* *Eclipse* is an ever-memorable instance of an awkward vaulting racer, being an indomptable winner: he is adduced in support of similar doctrine in the work quoted at page 251. Again, when, in 1821, *Cedric* won the Duke Michael stakes at Newmarket, similar "good judges" exclaimed, at starting, "there he goes! there's your favourite! Do you call *that* running in form?"...."Well, he *may* win, but he's no *runner*." After the manner of friend *Osmer*, let us ask, What they would have of a horse, or of a man, that employs his powers to a certain purpose, if either attain his end, AND WIN? Why should any one cavil at the *mode* of performance, unless this be the peevish expression of the loser's feelings? Cedric was noticed higher up, at page 170.

number nearly as there are horse-men,) that the awkward *manner of going* in a bred horse, if *well grown*, and used only for the road or hunting, does not signify a pin, *provided he goes above his ground and gets along.* Such a horse, if equally master of its weight, I would prefer to the best goer *to look at*, that was but half-bred, in the world. Furthermore, I look upon a half bred horse as a brute and a beast, comparatively speaking, that no man of property who understands horses, would ever use at all, if he could get any conveniency for breeding properly. Perhaps it may be said, 'it is no easy matter to raise bred horses to height and substance, proper for every purpose;' this I conceive to be a mistake, and is a matter that depends in great measure on the judgement of the breeder, and his knowledge of the laws of nature; witness the late Duke of Bolton, whose horses in general were victorious on the turf, masters of any weight in the chase; and fitter for the coach, too, than any other horses I ever saw, either for expedition or length of journey, or both put together.

But if those objectors to the thorough-bred horse should wish to decide these matters by the examples of such refuse as are turned out of training, I do not agree to their proposal; for I purpose not to give any advantages of form, substance, or proportion; but my design, in this exposition, is to shew, that the thorough-bred horse, when properly chosen, is, *for every purpose*, far superior to him that is half-bred; and this, for the same reasons

that the "cat-legged" stag excels the bullock in speed, the fox-hound excels the southern hound, and the fine-bred *setter* excels the *Spanish pointer*. And the reason why this demonstrable and proveable superiority in the *bred horse*, is not recognized by all men alike, is, because the difference in the nature and make of their constituent parts are not sufficiently studied by horsemen, as it ought. This want of understanding on the subject, is the very reason why sportsmen blindly impute this superiority in what we call the bred-horse, to some innate or hidden cause. But we may find the *true cause*, probably, in the very converse of this proposition,—*namely*, their blind prejudices in favour of occult, innate, or hidden qualities, have obstructed all acquisitions of rational knowledge on this subject, as of many others: let us hope the age of darkness is passing away, for the classes out of which the most garrulous of those "judges" have sprung, are now taught to read in books the knowledge of ages.

A

# VOCABULARY OF SYNONYMES;

AND OF

*Such hard Words, local Names, and scientific Terms, used in this Volume, as seemed to require elucidation for ordinary Readers.*

SEE, ALSO, THE INDEX.

---

*Anchylosis*, stiff joint.

*Aqua-fortis*, nitrous acid, weak.

*Articulation* of bones; their junction, and correspondence in shape of the ends with each other.

*Charge*, an application external, and is either poultice or cataplasm.

*Coffin* (the), the outer *wall* of the hoof, and is that part of the foot we see when looking at the horse in front and laterally. Now wall, crust, hoof.

*Coffin-bone*, so called from being the chief bone that occupies the coffin or hoof.

*Cornet*, the horn of *stag* or *buck*, made lancet-wise, for bleeding in the mouth, &c.

*Coronary-bone*, the small pastern.—See page 7, *note*, and page 15, *note*.

*Coronet*, or Coronary-ring, encircles the upper part of the hoof, where its wall joins the hair: formerly pronounced Cronet.

*Crust*, that part of the foot which is visible to us while the horse is standing.

*Deflagration*, burning, though not wholly destroying.

*Deobstruents*, medicines that open or remove obstructions of the vessels or glands. Many simples have this effect, that may not be ranked among medicines, operating slowly but certainly: many of the grasses also possess this quality; and those which grow near the sea invariably.

*Discutients*, a surgical term applied to such substances as have the power to discuss, separate, and drive away the morbid matter of tumours.

*Epidemic*. When a disease affects numbers of cattle it acquires this term; when confined to a given district they term it Endemial.—See INDEX.

*Eschar*, a scab or hard crust on the flesh.

*Fetlock*, a small tuft of hair behind *the joint* formed at the upper end of the pastern; this has acquired also the term fetlock-joint.

*Fleam*, or *Flaim*, a lancet to bleed horses, being placed *at the side* of the main blade, which is to be hit with the *blood-stick*.

*Fœtus*, the young animal in the womb, until near the time of *foaling*.

*Foot* (the), that part of the animal which comes next the ground, and is generally confined to its hoof of horn, sole, and heel, without reference to its *contents*, or internal structure, which occupies the first claim to consideration with skilful persons, who also carry their inquiries, respecting diseases of the foot, to the pastern-bone, and its accompanying sinews, cartilages, &c.

*Hock*, or Hough, the main-joint behind.

*Hoof*, the whole external foot from the coronet to the ground, sometimes, by careless people, applied to the wall or crust only.

*Horn*, the external wall or hoof of the foot, as it partakes of the nature of *the head* of horned animals. It partakes also of the nature and state of health of the individual, and of the *breed;* hot and cold in the extremes being detrimental to its true *temper* or degree of hardness: in fever it becomes brittle, the lungs affecting the fore-feet, inflammatory complaints in the abdomen the hind ones; a humid atmosphere, or swampy breeding country affects the whole race, whence *flat hoof.*

*Humours*, the secretions depraved.

*Interfering*, cutting; or wherein one leg toucheth or interferes with another.

*Juices*, secretions, humours.

*Lancet*, one of the names of the bleeding instruments we call flaim. But the lancet of the human practice, which is used by some persons, is one straight blade, for bleeding in the mouth, at the plate-vein, &c.

*Lint*, tow—*i. e.* hemp or lin.

*Nitrous acid*, when weak it is aqua-fortis.

*Nut-bone*, shuttle-bone, *Navicula.*

*Pastern* (the) is that bone which rises next above the hoof, and articulates with the *coronary bone*, now called *small pastern*, as this one is the *large pastern* bone. Their junction is the pastern joint.

*Patten*-shoe, heretofore *panton-shoe*, one made of an entire web, closed at the heels.

*Plancher*, old term for stable floor; so is planch, or planching.

*Potash*, potass, kali, carbonated potass.

*Salt-petre*, nitre, natron.

*Salts* are of several kinds, but when not further distinguished, *Glauber Salts*, or the *Epsom*, are understood. These will not operate as an *active* purgative, but in repeated small doses, of from three to five ounces daily, until the dunging is sufficiently affected, produce the most beneficial results. But an equally efficacious and much cheaper alterative is *Salt*, such as is employed for domestic purposes; that is to say, the *Marine Salt* of the pharmacopœias; than which there is not again such another medicine, or preventive, employed in the veterinary practice, whether given inwardly as

a *deobstruent*, or applied outwardly as a *discutient*. Not only are obstructions removed from the inside, but *worms*, as also *botts*, &c. are brought away by persevering in small doses, especially when combined with one-fourth its weight of flowers of sulphur.

*Sal Indus* is then the term given to the salt so compounded; and it is found most effectual upon the horse when the sulphur is employed *unwashed*. The prescription for *making Sal Indus* factitiously is given to us thus:—

Glauber salts..... 2 ounces,
Flowers of sulphur ..... 1 ounce,
Barbadoes aloes ..... 1 drachm,

mix, and give one ball a-day for a fortnight, unless purgation and the passing off of the worms sooner take place. These, however, with *Salt-petre* or *Nitre*, are sufficiently proven the most valuable species of remedy externally or internally, in various pages of the present volume: as may be ascertained by consulting the INDEX, under those *words*.

*Secretion*. The power and capacity of separating from the blood all those humours that are necessary for carrying on the functions of animal life;—as *Bile* by the liver, *Saliva* by the glands that open into mouth; *Urine* by the kidney, &c. all being performed by glands, that seem to act by pairs. When these secretions are obstructed, or when any perform their appointed function overmuch, disease ensues; in cases of the first-mentioned *Salts* is the best remedy for removing the obstructions; in the latter series of attacks, *drains*, (as Osmer terms them,) or bleeding, purgatives, rowels, blistering, &c., are the appropriate means of cure.

*Sorance*, evil, ill, disorder.

*Spanish Soap*, hard soap, mottled soap.

*Spirit of Salt*, muriatic acid.

*Stretch* (the), capacity of going, or ground covered at each stride, which marks the speed. *The stretch* may be considered *a leap* on plain ground, or over a shallow pool; and *galloping* is the leap reiterated. Called also *the stroke* in galloping.

*Tumour*, a swelled gland, occasioned by the deposit of unhealthy matter, commonly under the skin; but some such are known to arise is horses' insides, and always terminate fatally. Eight classes are reckoned, some whereof are indolent, and one is a simple swelling, without containing any matter.

*Turbith Mineral*, vitriolated quicksilver, yellow mercurial emetic.

*Vitriol powder*, copperas, green vitriol.

*Wall* of the foot, the upright part thereof, externally; including within it the two bones we call coffin-bone and navicula

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OF

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